Archeological Test Excavations at Eight Sites in the Lake Sharpe Project Area of Hughes, Lyman, and Stanley Counties, South Dakota 1987

Appendixes A-O

Prepared by
Western Cultural Resource Management, Inc.
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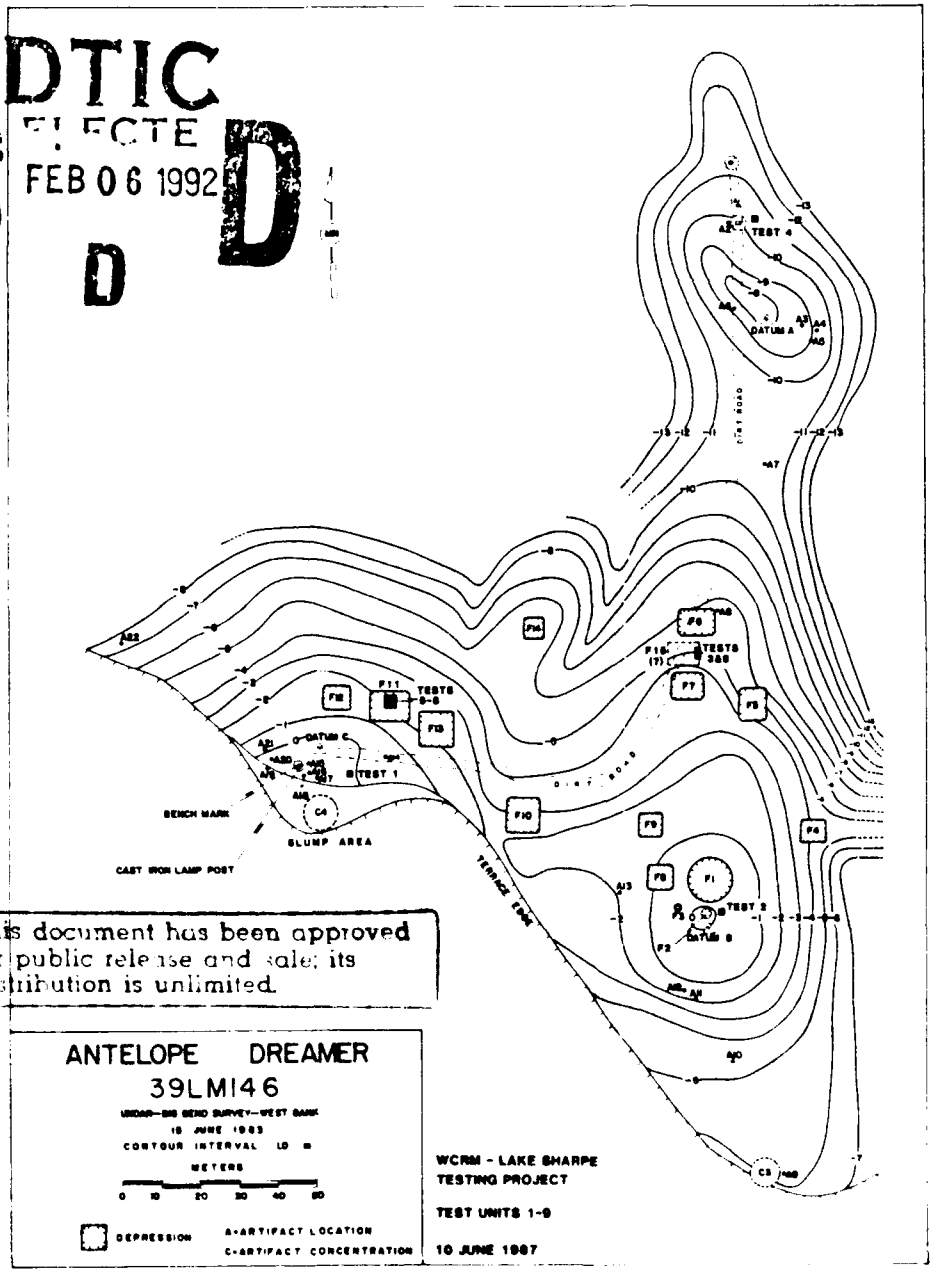

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South Dakota	National Register	Late Plains Woodland
Lake Sharpe	Plains Village	Mitigation
Hughes County	Initial Middle Missouri	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

See Reverse

20. ABSTRACT (SHORT)

ABSTRACT (SHORT)

Test excavations were conducted at eight sites on the Missouri River in central South Dakota. Six sites were evaluated as significant and eligible for listing on the National Register of Historic Places, including: (1) the West Bend site (39HU83), an Extended Coalescent specialized activity location (ca. A.D. 1500-1675); (2) the Antelope Dreamer site (39LM146), an Initial Middle Missouri village (ca. A.D. 1270); (3) the Windy Mounds site (39LM149), two late Plains Woodland burial mounds (ca. A.D. 600-1000); (4) the Buzzing Yucca site (39LM166), an Extended Coalescent village (ca. A.D. 1500-1675); (5) the Ghost Lodge site (39ST120), a Post-Contact Coalescent village (ca. A.D. 1780); and (6) the Sitting Buzzard site (39ST122), a campsite or specialized activity location with Post-Contact Coalescent (ca. A.D. 1675-1780) and late Plains Woodland (ca. A.D. 600-1000) components. The Betty Bite Off site (39LM156) and the Cache site (39ST121) were not found to contain significant archeological deposits and they were evaluated as not eligible for listing on the National Register.

APPENDIX A

MACROBOTANICAL REMAINS FROM FIVE SITES IN THE LAKE SHARPE AREA, CENTRAL SOUTH DAKOTA

by

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April 1990

Final report submitted in March 1988 to Western Cultural Resource Management, Inc., Boulder, Colorado.

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Introduction

Six flotation samples and 48 botanical samples from five archaeological sites in central South Dakota were analyzed. These sites, 39HU83, 39LM146, 39LM166, 39ST120, and 39ST235, are located along Lake Sharpe (Missouri River) in Hughes, Lyman, and Stanley Counties. The flotation samples consisted of soil from the fill of various features and earth lodge remains, the botanical samples are macrobotanical recovered by screening or observed during excavation (Tables A1 and A2). The majority of the samples are from sites 39LM146 and 39LM166. The purpose of this investigation is to recover and identify culturally significant macrobotanical remains to aid in the understanding of prehistoric plant use.

Site 39HU83 (West Bend) dates to the Extended Coalescent (A.D. 1500-1675). Site 39LM146 (Antelope Dreamer) is an Initial Middle Missouri (A.D. 900 - 1400) earthlodge village. Site 39LM166 (Buzzing Yucca) is Extended Coalescent (A.D. 1500-1675) and consists of three house remains with associated features. Site 39ST120 (Ghost Lodge) is a small Post-Contact Coalescent village (A.D. 1675-1780). Site 39ST235 (Stony Point) is a village with both Initial Middle Missouri and Post Contact Coalescent components dating to A.D. 950 - 1400 and A.D. 1675 - 1780 (see Toom, this report).

The sites are situated at approximately 1500 feet (457 meters) above mean sea level. Local vegetation has many components of an eastern woodland while being surrounded by a mixed grass grassland. Within the valley are various species of trees including eastern red cedar (Juniperus virginiana), cottonwood (Populus), American elm (Ulmus americana), and box elder (Acer negundo). Shrubs include common rose (Rosa), fringed sage (Artemisia frigida), silver sage (Artemisia frlifolia), buffaloberry (Shepherdia), American plum (Prunus americana) and chokecherry (Prunus virginiana). Common grasses include western wheatgrass (Agropyron smithii), blue grama (Bouteloua gracilis), needle and thread (Stipa), sand dropseed (Sporobolus), side oats grama (Bouteloua curtipendula), and buffalograss (Buchloe). Yucca (Yucca) is also scattered throughout the region (Toom and Picha 1984:15). Many of these plants are represented in the macrobotanical assemblage (Table A3).

Table A1

Sample Provenience

(● denotes Flotation Sample, otherwise sample is a Botanical Sample)

Cat. #	House Number	Test Unit	Level	Depth*	Feature	Comment
39HU83						
804		8	4	30-43	100	small basin-shaped pit
39LM146						
313	15	3	7	55 - 60		
315	15	3	8	60 - 70		
316	15	3	9	70 - 80		
317	15	3	9	70 - 80		
318	15	3			100	proximal end of uncharred post
319	15	3			101	distal end of charred post
515	11	5	8	70 - 80		
520	11	5	11	100-110		
521	11	5	11	100-110		
523	11	5	12	110-125		
524a	11	5	12	110-118	107	concentration of burned organic material
524b	11	5	12	110-118	107	concentration of burned organic material
524c	11	5	12	110-118	107	concentration of burned organic material
524d	11	5	12	110-118	107	concentration of burned organic material
525●	11	5	12	110-118	107	concentration of burned organic material
526	11	5	13	123-142	116	hearth fill
617	11	6	9	80 - 90		
619	11	6	10	90 -100		
621	11	6	11	100-110		
623	11	6	12	110-125		
624	11	6	12	114-116	111	charred beam from house floor
625	11	6	12	112-115	112	charred beam from house floor
626	11	6	12	113-115	115	charred beam from house floor
627	11	6	13	124-142	116	hearth fill
707	11	7	4	30- 40		
713	11	7	7	60- 70		
715	11	7	8	70- 80		
717	11	7	9	80- 90		
719	11	7	10	90-100		
723	11	7	12	110-128		

Table A1 (continued)

Cat. #	House Number	Test Unit	Level	Depth*	Feature	Comment
724	11	7	12	110-115	110	charred beam from house floor
726	11	7	13	125-152	116	hearth fill
817	11	8	9	80- 90		
821	11	8	11	100-110		
825	11	8	12	115-118	114	charred beam from house floor
827•	11	8	13	125-129	116	hearth fill
915	15	9	8	65- 70		
917	15	9	9	70- 75		
918	15	9	9	40-102	103	proximal end of uncharred post
920	15	9	8	67- 70	105	partially charred beam
921	15	9	8	66- 69	106	partially charred beam
39LM166						
104	5	1	4	30- 43		
105	5	1	4	30- 43		
106•	5	1	5	43- 59	100	hearth fill
205a	5	2	4	30- 43		rooffall / floor zone
205b	5	2	4	30- 43		rooffall / floor zone
206•	5	2		40- 41	100	hearth fill
207	5	2	5	43- 52	100	hearth fill
303		3	3	20- 32		
605•	6	6	5	35- 58	101	hearth fill
39ST120						
310a	2	3	8	66 - 68	101	hearth fill
310b•	2	3	8	66- 68	101	hearth fill
39ST235						
100	1	N/A	N/A	N/A	N/A	rooffall / floor zone of house exposed in a cut bank; Initial Middle Missouri component

* all depths stated as centimeters below surface depth

Table A2
Flotation Sample Size and Charcoal Amounts
(volume amounts in liters)

Catalogue Number	Original Volume	Light Fraction Volume	Heavy Fraction Volume	Light Fraction Charcoal*	Heavy Fraction Charcoal*
39LM146					
525	2.0	.250	.320	A	T
827	2.0	.120	.240	H	L
39LM166					
106	2.0	.070	.270	L	T
206	2.0	.070	.360	T	T
605	2.0	.150	.400	T	T
39ST120					
310a	2.0	.050	.100	L	T
TOTAL	12.0	.710	1.690		

* Charcoal Amounts
T = trace, less than 1% charcoal, by volume
L = light, 1-10%
M = moderate, 11-50%
H = heavy, 51-90%
A = abundant, over 91%

Table A3
Macrobotanical Remains
(• denotes Flotation Sample, otherwise sample is a Botanical Sample)

Cat. #	Identification	Common Name	Part	Whole	Fragment
39HU83					
804	Monarda	Beebalm	seed	2	
	Polygonum or Rumex	Buckwheat or Dock	seed	3	
	Vitis	Wild Grape	seed	1	
	Unknown	Unknown	seed		1
	Unknown	Unknown	seed		1
	Unknown	Unknown	seed		1
39LM146					
313	Chenopodium Type 4	Goosefoot	seed	1	
	Cleome serrulata	Beeweed	seed	1	
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
315	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
	Zea mays	Corn	cob		3
316	Prunus americana	Wild Plum	seed	2	
317	Poaceae	Grass Family	seed	1	
	Zea mays	Corn	cob		18
	Zea mays	Corn	kernal		4
318	Juniperus	Juniper	wood sample - uncharred (37 mm x 29 mm)		
319	Populus	Cottonwood	wood sample - charred (49 mm x 43 mm)		
515	Chenopodium Type 4	Goosefoot	seed	2	
	Zea mays	Corn	cob		1
	Zea mays	Corn	kernal		1
520	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
521	Cyperaceae or Poaceae	Sedge or Grass Family	stem		6
	Prunus americana	Wild Plum	seed	1	2
	Prunus	Cherry	seed	1	
	Rhamnus	Buckthorn	seed	1	
	Shepherdia	Buffaloberry	seed		1
	Symphoricarpos	Snowberry	seed	1	
	Zea mays	Corn	cob		14

Table A3 (continued)

Cat. #	Identification	Common Name	Part	Whole	Fragment
39LM146 (continued)					
523	Zea mays	Corn	cob		4
524a	Zea mays	Corn	cob		10
524b	Cyperaceae or Poaceae	Sedge or Grass Family	stem		93
	Zea mays	Corn	cob		5
524c	Prunus americana	Wild Plum	seed	1	5
	cf Zea mays	Corn	kernal	1	
524d	Amelanchier	Serviceberry	seed	1	
	Chenopodium Type 1	Goosefoot	seed	1	
	Chenopodium Type 2	Goosefoot	seed	2	
	Chenopodium Type 3	Goosefoot	seed	4	
	Chenopodium Type 4	Goosefoot	seed	16	
	cf Chenopodium	Goosefoot	seed	1	
	Cleome serrulata	Beeweed	seed	19	
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		2
	Helianthus Type 2	Sunflower	seed	3	1
	Physalis	Groundcherry	seed	1	
	Poaceae, cf Type 2	Grass Family	seed	7	2
	Vitis	Wild Grape	seed	1	
	Zea mays	Corn	cob		2
	Zea mays	Corn	kernal	11	
	cf Zea mays	Corn	kernal	1	
	Unknown	Unknown	seed	4	
	Unknown	Unknown	seed	1	
525•	Amaranthus	Pigweed	seed	2	
	cf Amaranthus	Pigweed	seed	1	
	cf Amelanchier	Serviceberry	seed		1
	Chenopodium Type 1	Goosefoot	seed	402	
	Chenopodium, cf Type 1	Goosefoot	seed	86	7
	Chenopodium Type 3	Goosefoot	seed	23	3
	Chenopodium Type 4	Goosefoot	seed	12	1
	Cleome serrulata	Beeweed	seed	11	5
	Compositae	Composite Family	seed	2	
	cf Helianthus Type 1	Sunflower	seed	1	
	Helianthus, cf Type 2	Sunflower	seed	2	7
	cf Leguminosae	Pea Family	seed	10	

Table A3 (continued)

Cat. #	Identification	Common Name	Part	Whole	Fragment
39LM146 (continued)					
525●	cf Opuntia	Prickly Pear	spine		3
(con't)	Physalis	Groundcherry	seed	8	
	Poaceae Type 1	Grass Family	seed	3	
	Poaceae Type 2	Grass Family	seed	4	
	Poaceae Type 3	Grass Family	seed	1	
	Poaceae Type 4	Grass Family	seed	3	
	Poaceae (undetermined)	Grass Family	seed	5	
	Poaceae or Cyperaceae	Grass or Sedge Family	stem		24
	cf Poaceae	Grass Family	seed	1	
	Polygonum or Rumex	Buckwheat or Dock	seed	2	
	Prunus	Cherry	seed	1	
	Scirpus or Carex	Bulrush or Sedge	seed	3	
	Stipa	Needle and Thread grass	awn		1
	Vitis	Wild Grape	seed	2	
	cf Vitis	Wild Grape	seed	1	
	Zea mays	Corn	cob		150*
	Zea mays	Corn	kernal	3	2
	cf Zea mays	Corn	kernal?	14	2
	Unknown	Unknown	seed?	5	
526	Cleome serrulata	Beeweed	seed	7	
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
	Helianthus Type 2	Sunflower	seed	2	
	Prunus americana	Wild Plum	seed		4
	cf Shepherdia	Buffaloberry	seed	1	
	Zea mays	Corn	cob		5
	Zea mays	Corn	kernal	2	
	cf Zea mays	Corn	kernal	1	
	Unknown	Unknown	seed	1	
	Unknown	Unknown	seed	1	
617	Unknown	Unknown	fruit?	1	2
619	Prunus	Cherry	seed	1	
	cf Prunus	Cherry	fruit?	1	
	Zea mays	Corn	kernal		2
621	Prunus americana	Wild Plum	seed		5
	Vitis	Wild Grape	seed	1	

Table A3 (continued)

Cat. #	Identification	Common Name	Part	Whole	Fragment
39LM146 (continued)					
623	Cleome serrulata	Beeweed	seed	4	
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		11
	Prunus americana	Wild Plum	seed	2	21
	Prunus	Cherry	seed	1	2
	Zea mays	Corn	kernal		6
624	Juniperus	Juniper	wood sample - charred (29 mm x 18 mm)		
625	Juniperus	Juniper	wood sample - charred (40 mm x 39 mm)		
626	Populus	Cottonwood	wood sample - charred (37 mm x 31 mm)		
627	Cleome serrulata	Beeweed	seed	11	1
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		3
	Helianthus Type 1	Sunflower	seed	1	
	Helianthus Type 2	Sunflower	seed	5	1
	Helianthus Type 3	Sunflower	seed	2	
	Physalis	Groundcherry	seed	1	
	Vitis	Wild Grape	seed		1
	Zea mays	Corn	kernal	14	4
	cf Zea mays	Corn	kernal?	3	
707	cf Brassica	Black Mustard	seed	1	
	Chenopodium Type4	Goosefoot	seed	1	
	Prunus	Cherry	seed		1
713	Polygonum or Rumex	Buckwheat or Dock	seed	one whole uncharred seed	
715	Vitis	Wild Grape	seed	1	
717	Juniperus	Juniper	seed	1	1
719	Amaranthus	Pigweed	seed	1	

Table A3 (continued)

Cat. #	Identification	Common Name	Part	Whole	Fragment
39LM146 (continued)					
723	Cleome serrulata	Beeweed	seed	2	
	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
	Sphaeralcea	Globe Mallow	seed	1	
	Prunus americana	Wild Plum	seed		3
	Prunus	Cherry	seed	1	
	Vitis	Wild Grape	seed	6	
	Xanthium	Cocklebur	bur		1
	Zea mays	Corn	kernal		2
	Unknown	Unknown	seed	1	
724	Populus	Cottonwood	wood sample - charred (39 mm x 38 mm)		
726	Unknown	Unknown	wood sample - charred (40 mm x 31 mm)		
817	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
821	Cyperaceae or Poaceae	Sedge or Grass Family	stem		1
	Vitis	Wild Grape	seed	1	1
825	Populus	Cottonwood	wood sample - charred (40 mm x 35 mm)		
827•	Chenopodium Type 1	Goosefoot	seed	12	
	Chenopodium Type 2	Goosefoot	seed	1	
	Chenopodium Type 3	Goosefoot	seed	24	16
	Chenopodium, cf Type 3	Goosefoot	seed	1	
	Cleome serrulata	Beeweed	seed	7	19
	cf Cruciferae	Mustard Family	seed	1	
	Helianthus Type 2	Sunflower	seed	3	58
	cf Panicum	Panic Grass	seed	1	
	Physalis	Groundcherry	seed	10	
	cf Poaceae	Grass Family	seed	1	
	cf Silene	Campion	seed	4	1
	Stipa	Needle and Thread grass	awn		2
	Vitis	Wild Grape	seed	1	2
	Zea mays	Corn	cob		24
	cf Zea mays	Corn	kernal?		9
915	Zea mays	Corn	kernal	1	
917	Zea mays	Corn	cob		1
	Unknown	Unknown	seed		1

Table A3 (continued)

Cat #	Identification	Common Name	Part	Whole	Fragment
39LM146 (continued)					
918	Juniperus	Juniper	wood sample - uncharred (39 mm x 37 mm)		
920	Juniperus	Juniper	wood sample - charred (27 mm x 25 mm)		
921	Juniperus	Juniper	wood sample - charred (41 mm x 11 mm)		
39LM166					
104	Fraxinus	Ash	wood sample - charred (17 mm x 17 mm)		
105	Helianthus Type 2	Sunflower	three whole uncharred seeds		
106●	NONE				
205a	Zea mays	Corn	cob		1
	Zea mays	Corn	kernal	2	1
205b	Helianthus Type 2	Sunflower	six whole uncharred seeds		
	Zea mays	Corn	kernal	1	
	cf Zea mays	Corn	cob		2
206●	NONE				
207	Prunus	Cherry	fruit	1	
303	Prunus americana	Wild Plum	seed		2
605●	Chenopodium Type 3	Goosefoot	seed		1
39ST120					
310a●	Unknown	Unknown	seed		1
310b	Fraxinus	Ash	wood sample - charred (24 mm x 20 mm)		
39ST235					
100	Populus	Cottonwood	wood sample - charred (small fragments)		
	TOTAL			852	607

Processing and Identification

The six flotation samples were processed using a water flotation technique. This process is based on the principle that organic remains float on the surface when a soil sample is submerged and agitated in water. The flotation sample volume was 2.0 liters before processing (Table A2). The sample is placed in a five gallon bucket which is then filled with water and agitated. The floating remains (light fraction) are poured onto a 0.5 mm screen. The bucket is then refilled with water, and agitated, and the floated remains again poured onto the screen. This process was repeated, usually three to five times, until little or no debris floats. The light fraction is air dried on newspaper-lined cardboard flats. The part of the sample which does not float was gently water screened in a 2.00 mm screen. All debris which does not pass through this screen (heavy fraction) is also air dried. Both the light and heavy fractions of each sample were examined under a binocular scope at 10x. All possible cultural remains, except charcoal, were separated from each sample.

The small botanical specimens(non-flotation remains) are from water screening in a 1/16" screen. A few of the larger botanical specimens were recovered from a 1/4" dry screen. Seed identification is based on the author's comparative collection and on seed identification manuals (Martin and Barkley 1961; Montgomery 1978; Munsil 1978). The wood samples were identified by Kathleen Cushman.

Results

The results of the analysis are presented in Table A3. Excluding the 14 wood samples, 1459 charred identifiable or possibly identifiable macrobotanical remains were recovered. These remains are primarily seeds, with stems, corn cob fragments, prickly pear spines, grass awns, a bur fragment, and fruits also represented. A minimum of 29 taxa are represented with over 98% of the remains associated with site 39LM146. The ten uncharred seeds associated with the samples are probably recent contamination due to insect or rodent activity.

The 14 wood samples were identified as cottonwood (Populus), juniper (Juniperus), and ash (Fraxinus). Charcoal was also noted in all of the flotation samples (Table 2). Generally the charcoal remains consist of moderate amounts of minute pieces.

Bone fragments were recovered from all of the flotation samples. The vast majority of the bone is tiny uncharred fragments of large bones which are probably unidentifiable. Flotations Samples 525, 106, 206, and 605 each had several hundred fragments, whereas Flotation Samples 310a and 827 had fewer than 150 each.

Lithics and ceramics are associated with many of the samples. Lithics were recovered from all of the flotation samples with the exception of Flotation Sample 206. Generally these are small interior chert or quartzite flakes with 10 - 50 lithics per sample. Ceramics are associated with Flotation Samples 206, 525, and 605 with over 100 tiny sherds in Flotation Sample 605.

Distribution, Description, and Potential Economic Uses of Macrobotanical Remains

The macrobotanical assemblage reflects several aspects of prehistoric plant use. Although this data can provide important insight, the interpretation of the assemblage must keep in mind the limitations of such remains. The assemblage includes only those plant remains which preserve through time. This generally selects against fleshy parts such as roots, tubers, and leaves. The quantification of the remains may also be somewhat misleading. A lone corn cob or grass stem can easily be broken into hundreds of pieces, and some plant species produce far more seeds than others. Nonetheless, the frequency and quantity of a particular species probably reflects the relative importance of that species to the prehistoric population. The macrobotanical remains from each site are discussed below, with the species discussed in descending order of frequency. The ethnographic accounts summarized in Table A4, along with the general geographic region covered in a particular reference, provide insight into the economic attributes of these species. Comparable archaeological remains are also discussed when available.

Table A4

Ethnographic Uses of Represented Taxa

(Ethnographic references are refered to by a number designation with references listed at end of table)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Amaranthus (Pigweed)			
Whole plant	2, 3, 4, 7, 14, 16, 19, 24		
Leaves		20	
Seeds	2, 4, 7, 14, 16, 17, 19, 20, 22, 23, 24		
Amelanchier (Serviceberry)			
Wood / Branches		1, 5, 19, 24	
Leaves	16		
Fruits	2, 4, 5, 6, 12, 13, 14, 15, 17 18, 22, 23, 24, 25, 16, 19		
Roots			9
Brassica (Black Mustard)			
Whole plant	3, 14, 19		
Leaves	3, 14, 19, 25		
Seeds	14, 19		
Unspecified			23
Chenopodium (Goosefoot)			
Whole plant	3, 4, 12, 13, 14, 20, 22		20
Leaves	7, 15, 16, 19, 21, 24, 25		21
Seeds	2, 4, 5, 7, 8, 14, 15,16 18, 19, 20, 22, 23, 25		
Unspecified	21	13, 19	23

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Cleome serrulata (Beeweed)			
Whole plant	4, 14, 15,16, 24	4, 16, 23, 24	
Leaves	6, 16, 19, 25	23	23
Flowers	19		
Seed	14, 16		23
Compositae (Composite Family)			
Whole plant	3, 4, 16	13,	2, 20, 23
Wood / Branches		5, 6, 24	
Stems	2, 5, 6, 7, 19	7, 20	13
Latex	6, 20	19	10
Leaves	5, 6, 13, 19	7, 19	9, 11, 12, 15, 19, 23
Buds / Flowers		20, 23, 24	7, 12, 13, 20
Seeds	2, 4, 5, 6, 7, 8, 13, 14, 15, 16 17, 18, 19, 20, 21, 22, 23, 24	14	19, 20
Roots	4, 6, 9, 11, 12, 16, 18, 19, 24		5, 12, 13, 19, 20, 23
Unspecified		2, 6	2, 6, 9, 11, 12, 13, 15, 19, 20, 23, 24
Cruciferae (Mustard Family)			
Whole plant	2, 3, 4, 6, 14, 19, 24		1, 20, 23
Leaves	1, 3, 6, 16, 19		23
Seeds	1, 2, 4, 5, 6, 7, 14, 15, 17, 19, 23		1, 7
Roots			24
Unspecified	19	19, 24	15, 23

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Cyperaceae or Poaceae (Sedge or Grass Family)			
Whole plant		13, 19	
Shoots	5, 6, 8, 13, 19		
Pollen	19		
Seeds	2, 19	19	
Roots	19		
Unspecified			24
Helianthus (Sunflower)			
Leaves			7
Flowers		6	13, 20
Roots			20
Seeds	2, 4, 5, 6, 7, 8, 13, 14 15, 16, 18, 19, 20, 23	5, 6, 13, 14, 15, 19	13, 23
Juniperus (Juniper)			
Wood / Branches		5, 19, 20, 23, 24	11, 13, 19, 23, 24
Bark	4, 14, 19	5, 9, 20, 23	
Young Shoots	8, 19		19, 20
Leaves			1, 5, 13, 19, 24
Fruit	4, 5, 8, 14, 17, 18, 23, 24, 25	23	13, 15, 23

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Leguminosae (Pea Family)			
Whole plant		19	13, 20, 23
Leaves	13, 16, 19, 25		12, 13, 19, 20, 23
Flowers			13
Fruits	1, 2, 4, 8, 12, 13, 16, 19, 20, 25		
Seeds	16, 19		13
Roots / Tubers	2, 8, 11, 13, 16, 17, 18, 19	19	12, 13, 19, 23
Unspecified			23
Monarda (Beebalm)			
Leaves	6, 15, 16	11	12, 13, 19
Flowers		12	12, 13
Unspecified	19		6, 15, 23, 24
Opuntia (Prickly Pear)			
Pads	1, 2, 4, 12, 13, 14 16, 18, 22, 24	13	1, 7, 13, 23
Spines			1
Buds / Flowers	1, 16		
Fruits	1, 2, 4, 6, 7, 10, 12, 13, 14, 15, 16, 18, 22, 23, 24	7	
Seeds	14, 16		
Unspecified	5		15
Panicum (Panic Grass)			
Seeds	16, 18, 19, 25		
Physalis (Groundcherry)			
Fruits	4, 6, 7, 12, 13, 14, 15 16, 19, 20, 23, 25		19

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Poaceae (Grass Family)			
Whole Plant		9, 12, 13, 15, 19, 20, 21, 23, 24	12, 15, 19
Young Shoots	19		
Seeds	2, 4, 5, 8, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24		
Roots	19		
Unspecified	21		
Polygonum or Rumex (Buckwheat or Dock)			
Whole plant	2		23
Stems	4, 14, 15, 16, 18, 19		
Leaves	6, 7, 14, 15, 19, 25		6, 12, 13, 15
Seeds	14, 18, 19, 25		
Roots	4, 6, 14, 15, 19	2, 7, 15, 18	2, 5, 6, 9, 13, 15, 20, 21
Unspecified	21, 22, 25	7	23
Prunus americana (Wild Plum)			
Wood / Branches		13	16, 19
Fruits	4, 8, 9, 11, 12, 13 14, 16, 18, 19, 25	11	
Seeds		12	
Unspecified		9	
Prunus (Cherry)			
Wood / Branches	9		5
Bark	16		5
Fruits	4, 5, 6, 8, 9, 11, 12, 13, 14, 16, 18, 19, 22, 23, 25		
Unspecified		16	19

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Rhamnus (Buckthorn)			
Wood / Branches			19
Fruits	18, 21		19
Scirpus or Carex (Bulrush or Sedge)			
Shoots	6, 8, 14, 19	12	
Stems	5, 6, 12, 22, 25	9, 11	
Leaves		19	
Pollen	17, 19, 25		
Seeds	2, 19		
Roots	5, 9, 13, 14, 17, 18, 19, 22		5
Unspecified			23
Silene (Campion)			
Young Shoots	19		
Leaves		5	
Roots			5
Sphaeralcea (Mallow)			
Stems			15
Roots			7, 15, 19, 20, 23
Shepherdia (Buffaloberry)			
Wood / Branches		5	
Fruits	14, 15, 16, 19, 22		
Stipa (Needle and Thread Grass)			
Whole Plant		11, 19	
Seeds	19, 21, 22		
Awns		13	

Table A4 (continued)

Species	Edible / Beverage	Utilitarian / Fuel	Medicinal / Ceremonial
Symphoricarpos (Snowberry)			
Wood / Branches		12, 19	
Leaves		2	12, 13, 23
Fruits	19		
Roots			12
Unspecified			9
Vitis (Wild Grape)			
Young Shoots	19		
Leaves	14		
Fruits	2, 4, 11, 13, 14, 16, 17, 18, 19, 24, 25		
Sap	13		
Seeds	2		
Xanium (Cocklebur)			
Leaves		1	7
Burs	15		15
Seeds	4, 6, 20		15, 20
Zea mays (Corn)			
Silks	13		
Husks		8	
Kernals	2, 8, 9, 11, 13, 17, 18, 19, 20, 23, 24		20
Unspecified			8, 11, 12, 20

Table A4 (continued)

Ethnographic References for Plants Represented by Macrobotanical Remains

	Author	Date	Group	Region
1	Balls, Edward K.	1975	General	California
2	Bye, Robert A.	1972	Southern Paiute	Great Basin
3	Bye, Robert A.	1979	Tarahumara	Mexico
4	Castetter, Edward F.	1935*	General	Southwest
5	Chamberlin, Ralph V.	1911*	Gosiute	Utah
6	Craighead, J.J., et al.	1963	General	Western United States
7	Curtin, L.S.M.	1984**	Pima	Southern Arizona
8	Cushing, Frank Hamilton	1920*	Zuni	New Mexico
9	Densmore, Frances	1928*	Chippewa	Upper Midwest
10	Dodge, Natt N.	1976	General	Southwest
11	Gilmore, Melvin R.	1913a*	Dakota	Nebraska
12	Gilmore, Melvin R.	1913b*	Dakota	Nebraska
13	Gilmore, Melvin R.	1977***	Plains tribes	Upper Missouri River
14	Harrington, H.D.	1967	General	Western United States
15	Hocking, G.M.	1956*	Navajo	Arizona
16	Kindscher, Kelly	1987	General	Central North America
17	Palmer, Edward	1878*	General	Western United States
18	Palmer, Edward	1871*	General	Western United States
19	Rogers, Dilwyn J.	1980	General	Northern Great Plains
20	Stevenson, Matilda C.	1915*	Zuni	Northern New Mexico
21	Steward, Julian H.	1933*	Paiute	Great Basin
22	Steward, Julian H.	1938*	General	Great Basin
23	Vestal, Paul A.	1952*	Navajo	Northern Arizona
24	Whiting, Alfred F.	1939*	Hopi	Arizona
25	Yanovsky, Elias	1936*	General	North America

* Primary source
** Reprint of a primary source from 1949
*** Reprint of a primary source from 1919

The West Bend Site (39HU83)

Botanical Sample 804 is from a small basin-shaped pit (Feature 100), and contained nine seeds or seed fragments. The six identifiable seeds represent three taxa.

Buckwheat or Dock (Polygonum or Rumex)

Three buckwheat or dock seeds are associated with the botanical sample. These seeds are probably from one of the 26 species currently listed for the Great Plains, although several of the modern species are introduced from Eurasia (McGregor 1986:220-230). Buckwheats and docks are common throughout the region, with five species considered serious weeds in South Dakota (Kinch 1967:72-76).

The plants have numerous economic uses (Table A4), and their remains have been identified from several comparable sites. Two buckwheat or dock seeds were recovered from the nearby Antelope Dreamer site. Both buckwheat and dock seeds were recovered from the Mitchell site (39DV2). This Initial Middle Missouri site is located approximately 90 miles south-southeast of Lake Sharpe and dates to A.D. 985 - 1125 (Benn 1974). Seeds identified as either dock or buckwheat (smartweed) were also recovered from the Travis I site (39CO213), an Extended Middle Missouri and Extended Coalescent village site in north central South Dakota (Haberman 1982:509-510). Dock seeds, believed to be garden weeds inadvertently added to the archaeological contexts, were recovered from Initial Middle Missouri contexts at the the Crow Creek site (39BF11) in central South Dakota (Haug 1986:265).

Beebalm (Monarda)

The two beebalm seeds are from a mint family species with fragrant showy clusters of small pinkish flowers. Two species of beebalm (Monarda fistulosa and Monarda pectinata) are presently found in the region (Johnson and Nichols 1970:111; McGregor 1986:724-725; Vance et al. 1977:142). Several ethnographic accounts relate medicinal uses for beebalm, and parts of the plant are edible (Table A4).

Wild Grape (Vitis)

A complete wild grape seed, possibly from the riverbank grape (Vitis riparia), was also recovered from the sample. This species of grape is found in wet or wooded habitats and produces clusters of small (4 - 6 mm) dark purple fruits (McGregor 1986:560; Stephens 1973:390-391).

Grape consumption is mentioned in several ethnographic accounts of historical Indian groups along the upper Missouri River (Meyer 1977:2). The seeds were recovered from initial Middle Missouri contexts at the the Crow Creek site (Haug 1986:265). Grape seeds tentatively identified as Vitis riparia were recovered from the Travis I site (Haberman 1982:515). Haberman notes the similarity of grape seeds to those of the closely related Virgina creeper (Parthenocissus). Two virginia creeper seeds were recovered from the Mitchell site (Benn 1974:60).

The Antelope Dreamer Site (39LM146)

The 41 samples analyzed from the Antelope Dreamer site consist of 39 botanical samples and two flotation samples. Twenty eight of the botanical samples and both of the flotation samples are from House 11, whereas the remaining 11 botanical samples are associated with House 15. Both of these houses were destroyed by fire which may explain the excellent macrobotanical preservation. The flotation samples were removed from a concentration of burned organic remains (Feature 107, Flotation Sample 525), and hearth fill (Feature 116, Flotation Sample 827). The botanical samples from House 11 were recovered from these two features in addition to several beams (Features 110, 111, 112, 114, and 115), and contexts not associated with a specific feature. The samples from House 15 are from several posts / beams (Features 100, 101, 103, 105, and 106), and proveniences not associated with a particular feature.

Goosefoot (Chenopodium sp.)

The 616 goosefoot or probable goosefoot seeds (also called lambsquarters) are the most common remains, comprising nearly 43% of the charred seed assemblage. These seeds were recovered from both of the flotation samples and four of the botanical samples. All but one of these seeds are associated with House 11, with 91% of them from a concentration of charred organic

remains (Feature 107). Fifty-four of the seeds are from the hearth fill of Feature 116, and three are from non-feature contexts.

Four different types of goosefoot seeds were observed. It is uncertain whether these distinctions are due to species differences or the result of different preparation techniques. Chenopodium Types 1 and 2 are both represented by very small seeds (averaging approximately 0.9 mm diameter). Type 1 seeds are split and popped with the embryo of the seed generally expanded and protruding outside of the seed coat. Type 2 are the same size but are not split. Types 3 and 4 are generally larger, with diamerters averaging approximately 1.3 mm. Type 3 are split and many are slightly popped, whereas Type 4 are not split. Generally the four types were easily distinquished on the basis of size, although seed coat patterning differences were not readily observable.

These seeds may be from two species or varieties of goosefoot. Chenopodium Types 1 and 2 probably represent one species or variety and Types 3 and 4 representing a second. Although seed Types 3 and 4 are fairly large, and large Chenopodium seeds have often been attributed to cultivation, this does not seem to be the case here. Both seed types fall within the range for several native species (McGregor 1986:168-173). Asch and Asch (1977) suggest that prehistoric goosefoot cultivation may not have been as prevalent as previously thought. They report that many cases for prehistoric Chenopodium cultivation were based on misidentified seeds or were written without a complete understanding of the range of variability possible in wild populations. There is no apparent pattern to the distribution of the different goosefoot seed types within the site.

The differences within the two groups is probably the result of preparation techniques. The heat of the fire and the moisture content of the seeds may both be important factors. Fire temperature varies with hearth and fuel type, and seed moisture content is effected by seed maturity. Storage or dryng of the seeds prior to charring may also effect seed appearance.

Several goosefoot species presently grow in the region. Many of these were probably introduced from Europe or Asia, including C. album and C. glaucum, but several species are probably native, such as C. berlandieri and C. desiccatum (Kinch 1967:79; McGregor 1986:167-173; U.S.D.A. 1971:132). Goosefoot plants range in height from a few centimeters to over a meter tall and tend to be weedy. They produce small black seeds, averaging about 72,000 per plant (Alley and Lee 1979:56).

Goosefoot use is well documented in the archaeological record and in ethnographic literature (Table A4). In many ways it is an ideal food source. The seeds are edible and the plant itself can be used as a green or potherb. It provides a fairly steady source of food throughout the year with storage potential for the lean seasons. The ecological aspects of goosefoot, including its preference for disturbed soil (such as an occupied site or flood plain), easy propagation, and tolerance of a wide range of environmental conditions, also make it attractive as a food source.

Archaeologically, George Will and Herbert Spinden recovered goosefoot seeds from their 1905 excavations of the Double Ditch site (32BL8), a Mandan site in the Heart River area of North Dakota (Will and Spinden 1906:179). Over 600 goosefoot seeds, representing a minium of three species, were recovered from Houses 3 and 4 at the Mitchell site (Benn 1974:56), and over 800 goosefoot seeds are associated with the Travis I site (Haberman 1982:510-511, 526). Probable goosefoot seeds are associated with the Hosterman site (39P07), an Extended Coalescent village in north central South Dakota (Miller 1964:232). A Chenopodium Type 3 seed fragment was also recovered from Flotation Sample 605 from the Buzzing Yucca site.

Corn (Zea mays)

Corn cob fragments and kernels and probable corn parts are the most frequent and second most abundant remains. They were found in both flotation samples and 16 of the botanical samples. These comprise 22% of the charred assemblage with approximately 320 occurrences. The majority of the corn (74%) is single cupule cob fragments. Over 91% of the corn remains are from House 11, with nearly half of them recovered from Flotation Sample 525 from Feature 107. Feature 116 within House 11 also contained many fragments, as did the general house fill. The 27 corn remains from House 15 are not associated with any particular feature. Approximately 170g of cob fragments from this site were not submitted for analysis.

As mentioned above, the vast majority of corn remains are single cupule cob fragments. Several multiple cupule fragments were also recovered, as were a few large cob fragments. The most complete cob fragments are the ten from the concentration of charred organic remains (Feature 107, Sample 524a). The fragments had maximum dimensions averaging 46 mm long and 18 mm in diameter. Although they were badly damaged by charring and pressure, most had 12 rows. The majority of the corn reported from the historical tribes in this region has 8 to 10 rows, but a few 12-rowed varieties are reported (Miller 1964:231; Will and Hyde 1917:299-317). The kernals ranged in size from 2-5 mm.

Corn is often associated with the historic tribes of the upper Middle Missouri subarea, and is a common component in many of the archaeological sites of the area. The expansive flood plains of the region offered the soil and moisture necessary for successful agriculture. Corn was probably introduced to the region near the end of the Plains Woodland Period (A.D. 1-900), and was a major food source for the regional populations during the Plains Village Period between A.D. 900-1862 (Toom and Picha 1984:22-23). The introduction and distribution of corn in North America is discussed in numerous reports (Carter 1948; Ford 1981; Galinat 1965; Heiser 1965; Mangelsdorf et al. 1971; Smith 1965; Weatherwax 1950).

Gilmore states that corn was the most important plant to the Omaha of northeastern Nebraska (Gilmore 1913a:327). He also mentions several varieties grown by Nebraska groups in 1914: "Native informants say they had all the general types - dent corn, flint corn, flour corn, sweet corn, and pop corn; and that of most of these types they had several varieties" (Gilmore 1977:15). Corn is also associated with the Mandans (Meyer 1977:1-3,15, 63; Will and Spinden 1906:117-119), the Hidatsa (Wilson 1917), and several additional historical groups (Will and Hyde 1917). The Mandan of the early 1700s were successful enough as farmers to produce a surplus of corn which was then used for trade (Meyer 1977:15).

Corn, often identified as the Northern Flint variety, is probably the most common vegetable remain recovered from comparable sites (Benn 1974; Caldwell 1966:100; Haberman 1982; Haug 1986:266; Hurt 1951; Smith and Grange 1958:115; Spaulding 1956; Will and Spinden 1906:179-180; Wood and Woolworth 1964:50). Corn cob fragments and kernals are also associated with the Buzzing Yucca site.

No attempt was made to distinguish variation, sub-species, or racial type of the corn remains due to the charred and fragmentary nature of the assemblage. Sub-species characteristics are often obscured by numerous environmental variables including soil, available moisture, temperature variations, and cultivation practices (Benz 1985; Ford 1982:304-305; Shuster and Bye 1984:94-99). These factors can cause cob and kernel variation within a corn race, both between different corn fields, and among plants from the same field. Other factors including genetic drift, human selection, and charring can also cause considerable variation within a corn race (King 1987). These variables render race determination speculative in many cases. Future refinement of analytical techniques may greatly increase the amount of data available from archaeological corn remains.

Sedge or Grass Family (Cyperaceae or Poaceae)

The 146 small fragments of sedge or grass stems were recovered from one of the flotation samples and 12 of the botanical samples. These fragments include both hollow and solid stemmed specimens and appear to be a mixture of several types of grass and grass-like plants. All but two of the fragments are from House 11, and over 80% are from the concentration of burned organic material of Feature 107 in House 11. As noted below, several grass seeds are also associated with this feature.

Grass dominates much of the landscape of the Great Plains, and various grass species were utilized for food or utilitarian purposes by many Indian groups (Table A4). Several utilitarian uses are noted by ethnographers of the upper Missouri River region (Catlin 1973:114; Gilmore 1913a:318; Wilson 1934:365, 390, 403), but perhaps George Catlin described the most unique use of grass by the "beau or dandy" men of the Mandan in the 1830s: "They plume themselves with swan's-down and quills of ducks, with braids and plaits of sweet scented grass and other harmless and unmeaning ornaments, which have no other merit than they themselves have, that of looking pretty and ornamental" (Catlin 1973:112).

Several fragments of charred grass were uncovered by Will and Spinden during their 1905 excavation of a Mandan structure. These fragments appear to represent lining in a pit and cordage (Will and Spinden 1906:181-182). Charred grass was also uncovered at the Initial Middle Missouri Sommers site (39ST56), located approximately 30 miles from the Antelope Dreamer site, and may represent use for house construction (Kivett and Jenson 1976:75). Grass was used as a possible head cushion for a historic Arikara child's burial near Mobridge, South Dakota (Wedel 1955:145).

Beeweed (Cleome)

The 87 beeweed seeds represent 6% of the macrobotanical remains. They are from both of the flotation samples and six of the botanical samples. All but one of these seeds is from House 11, with 45 seeds from Feature 116, 35 seeds from Feature 107, and 6 seeds from general house fill.

Beeweed is a weedy plant which can grow to over one meter tall with clusters of purple flowers and 3-5 cm long slender pods. The whole plant has a disagreeable tarlike aroma. The purple beeweed (Cleome serrulata) is found throughout many parts of the Great Plains (Johnson and Nichols 1970:82; Kinch 1967:103; McGregor 1986:291-292; Vance et al 1977:51).

Ethnographic reports indicate that beeweed was an important food source, although most of these accounts concern southwestern groups (Table A4). Several accounts mention that the plant was encouraged or cultivated (Kindscher 1987:93, Harrington 1967:72; Whiting 1939:17, 78). Two beeweed seeds were recovered from the Mitchell site (Benn 1974:59-60).

Sunflower (Helianthus)

The 86 sunflower seeds or seed fragments (achenes) are nearly as frequent as the beeweed remains. These seeds were recovered from both of the flotation samples and three of the botanical samples, all of which are from Feature 107 or 116 in House 11. Feature 116 (Flotation Sample 827) contained the majority of the seeds, with 61 primarily fragmentary seeds.

Three types of sunflower seeds are defined. Helianthus Type 1 is the largest of the seeds, with an average length of approximately 11 mm. Helianthus Type 2 averages approximately 7 mm long, and Helianthus Type 3 averages approximately 4 mm long. As with the different Chenopodium types, the Helianthus types were generally easily distinguishable. All three types were identified from Botanical Sample 627, one each of probable Types 1 and 2 were recovered from Flotation Sample 525, and all other sunflower seeds are Type 1.

The length of Type 3 seeds is within the 3 - 5 mm range for the native sunflowers most common to the region, including common sunflower (Helianthus annuus), stiff sunflower (Helianthus rigidus), Maximilian sunflower (Helianthus maximiliani), and plains sunflower (Helianthus petiolaris) (Martin and Barkley 1961;42, 203; McGregor 1986:954-956; Yarnell 1978:291). Modern cultivated varieties generally range in length from 7 - 15 mm (Yarnell 1978:291). Seed Types 1 and 2 are both larger than would be expected for native seeds and probably represent cultivated varieties. Yarnell attributes selection and cultivation with the steady increase in sunflower seed size through time with specimens from midwestern archaeological sites dating to the last 3000 years (Yarnell 1978).

Several ethnographic sources note the cultivation of sunflowers by various Indian groups (Bye 1972:93; Castetter 1935:30; Craighead et al. 1963:218; Cushing 1920:290; Gilmore 1977:78; Harrington 1963:312; Kindscher 1987:124; Rogers 1980:54). Of particular interest are the historical reports concerning the tribes of the Middle Missouri subarea. In 1914 Gilmore reported that sunflower "... was and still is cultivated by the Arikara, Mandan, and Hidatsa in North Dakota" (Gilmore 1977:78). Will and Spinden relate Alexander Philip Maximilian's 1830s account concerning sunflowers among the Mandans: "The sunflowers, Maximilian says,

seemed to differ little from those ordinarily cultivated in civilization. There were three kinds, red seed, black seed, and a small seeded sort" (Will and Spinden 1906:119). Wilson also mentions several varieties of cultivated sunflowers among the Hidatsa in the early 1900s (Wilson 1917:16-17). The Hidatsa continued to use wild sunflowers along with the cultivated variety (Kindscher 1987:127). This practice appears to be documented at the Antelope Dreamer site and several comparable sites.

Sunflower seeds are associated with several comparable sites. Both native and cultivated varieties of seeds were recovered from the Mitchell site (Benn 1974:66-67) and the Travis I site (Haberman 1982:518). Four sites in north central South Dakota, the Lower Grand site (39CO14), the Helb site (39CA208), the Walth Bay site (39WW203), and the Crow Creek site (39BF11), in addition to the Bagnell site (320L16) in central North Dakota, contained cultivated sunflower seeds (Haug 1986:266; Nickel 1977:56). Seeds from a small-flowered species of sunflower, dating to the Initial Coalescent (1400 - 1550), were also recovered from the Arzberger site (39HU6) in central South Dakota (Spaulding 1956:60). Two sunflower species are associated with the Double Ditch site in central North Dakota (Will and Spinden 1906:180).

Wild Plum (Prunus americana)

Forty-six plum seeds or seed fragments (stones) are associated with seven of the botanical samples from the Antelope Dreamer site. All but two of these were recovered from House 11. The 44 occurrences from House 11 were generally recovered from samples not associated with features, although four fragments are from the hearth, Feature 116 (Botanical Sample 526). The two whole seeds associated with House 15 were also recovered from non-feature contexts.

Wild plums grow throughout the Great Plains, with only Prunus americana currently growing in South Dakota (McGregor 1986:390-396; Stephens 1973:280-303). Prunus americana is a shrub or small tree which can grow in dense thickets in a variety of habitats. The oval fruits have a diameter up to 2.5 cm and contain a seed averaging approximately 1.6 - 1.8 cm long. The complete wild plum stones associated with the botanical samples are slightly smaller than this range (averaging approximately 1.4 cm long), possibly due to charring or drying.

As noted in Table A4, several historical Indian groups ate wild plums, including those along the upper Missouri River (Gilmore 1977:35; Meyer 1977:2, 65; Will and Spinden 1906:120). They were eaten fresh or dried and often stored for winter use (Catlin 1973:122; Gilmore 1977:35).

Plum stones have been recovered from several comparable sites, including two seed fragments from the Buzzing Yucca site (Botanical Sample 303). Wild plum remains are associated with the Late Prehistoric Walth Bay site (Nickel 1977:56) and the multi-component Dodd and Phillips Ranch sites (39ST30 and 39ST14) in central South Dakota (Lehmer 1954). Three village sites with Extended Coalescent components in south central South Dakota, the Black Partizan site (39LM218), the Good Solider site (39LM238), and the Spain site (39LM301), all contained wild plum seeds (Caldwell 1966:100; Neuman 1964:317; Smith and Grange 1958: 115), as did the Hosterman site (Miller 1964:232), the Travis I site (Haberman 1982:512-514), and the Crow Creek site (Haug 1986:266). Plum remains are also associated with historic Arikara burials in north central South Dakota (Wedel 1955:145).

Grass Family (Poaceae)

Twenty-eight grass seeds were recovered from both of the flotation samples and two of the botanical samples. The vast majority of these seeds (93%) are from the concentration of burned organic material in House 11 (Feature 107).

Four types of grass seeds were identified. Unlike the various types of sunflower and goosefoot seeds, the grass seeds were differentiated on somewhat subjective shape variations, and these variations were not always easily apparent. Types 1 through 4 range from long and narrow to shorter and wider, and large roundish to small roundish. These seeds probably represent a minium of four genera.

Many native grasses have edible seeds or were used for utilitarian purposes (Table A4). Niethammer (1974:37) notes that "the Indians collected and ate more than fifty different kinds of grass seeds." The grass seeds associated with Feature 107, in addition to the sedge or grass stems recovered from that context, may represent the remnants of a mat or lining. As noted above, the archaeological remains of these items have been identified from comparable sites. Over 100 seeds, representing a minium of five non-corn grass species, were recovered from the Mitchel site (Benn 1974:59). Several hundred grass seeds, possibly representing wheatgrass (Agropyron), grama (Bouteloua), and needle and thread (Stipa), are associated with the Travis I site (Haberman 1982:508).

Physalis (Groundcherry)

The 20 groundcherry seeds are associated with both of the flotation samples and two of the botanical samples. Approximately half of these seeds are from Feature 107 in House 11 and the remaining seeds are from Feature 116 in House 11. This distribution is very similar to the distribution of the sunflower seeds mentioned above.

Several species of groundcherry, including clammy ground cherry (Physalis heterophylla) and common ground cherry (Physalis longifolia), currently grow in the region (Kinch 1967:145; McGregor 1986:642-646). Groundcherry is a member of the interesting Nightshade plant family (Solanaceae) whose members are generally edible, medicinal, hallucinogenic, or deadly. In the case of the groundcherry, the small tomatoe-like fruits are edible and were eaten by several historical Indian groups (Table A4). Comparable archaeological ground cherry remains are not common, although ten clammy ground cherry seeds were recovered from the Mitchell site (Benn 1974:59-60).

Wild Grape (Vitis)

The 18 wild grape seeds were recovered from both flotation samples and six of the botanical samples. All of the seeds are from House 11, with four from Feature 107, four from Feature 116, and ten from non-feature contexts. A wild grape seed fragment is also associated with Botanical Sample 804 from the West Bend site. The ecology and historic use of wild grapes is discussed above in conjunction with that site.

Pea Family (Leguminosae)

Ten possible pea family seeds are associated with Feature 107 in House 11 (Flotation Sample 525). The seeds are very small (approximately 1 mm long), and a common legume shape, but are in poor condition and may actually belong to the Mallow Family (Malvaceae) or some other taxa. They are within the general size critera for some legumes currently growing in the general region, including species of milk vetch (Astragalus), lucanus (Dalea), and clover (Trifolium), although most native legumes of the region have seeds that are 2 - 5 mm long (McGregor 1986:416-490).

Although domesticated bean remains are often associated with comparable sites, wild pea family remains are not common. One exception to this is the Mitchell site, which contained the remains of three species of pea family seeds (Benn 1974:59-60). Several of these are Trifolium

seeds. Several unidentified small crescent shaped seeds from the Travis I site, possibly belonging to the pea, mallow or nightshade families, sound very similar to these ten seeds from the Antelope Dreamer site (Haberman 1982:505).

Cherry (Prunus)

Eight cherry seeds (stones) and one possible cherry fruit are associated with one of the flotation samples and five of the botanical samples. All of these seeds or seed fragments, and the possible fruit, are from House 11, with all but one from non-feature contexts.

The complete seeds (stones) are 4-6 mm long, which is slightly small for most native cherry species currently growing in the general region. The pin cherry (Prunus pensylvanica) has stones approximately 6 mm long, the sand cherry (Prunus besseyi [Prunus pumila var. besseyi]) stones are 7.6-8 mm long, and the chokecherry (Prunus virginiana) stone is 6.9 - 7.3 mm long (Stephens 1973:284, 296, 302; McGregor 1986:394, 395-396). As with the wild plum seeds, the cherry seeds may be stunted due to charring and the effects of time.

Historical accounts note that chokecherries were "much used" by the Mandans in the early 1900s (Will and Spinden 1906:120), in addition to numerous other upper Missour River groups (Meyer 1977:2, 65). The pits of several cherry species were consumed by historical Indian groups in California (Timbrook 1982).

A possible cherry fruit is also associated with the Buzzing Yucca site (Botanical Sample 303). Chokecherry seeds are associated with the Hosterman site (Miller 1964:232), the Travis I site (Haberman 1982:512-513), and historical graves in north central South Dakota (Wedel 1955:145). Black cherry seeds (Prunus serotina) were recovered from the Spain site (Smith and Grange 1958:115), and cherry seeds were found at the Crow Creek site (Haug 1986:266).

Campion (Silene)

Four possible campion seeds were recovered from the hearth fill of Feature 116 in House 11 (Flotation Sample 827). Several native species, including sleepy catchfly (Silene antirrhina), drummond campion (Silene drummondii), and starry campion (Silene stellata), are currently found in the region (McGregor 1986:205-210). The plant has limited economic uses (Table A4), and is not common in comparable sites.

Pigweed (Amaranthus)

Four pigweed seeds are associated with a flotation sample and a botanical sample from House 11. These seeds are from a plant ecologically and economically similar to goosefoot. As with goosefoot, several species of pigweed are currently identified for the region, including the native tumbleweed (Amaranthus albus), prostrate pigweed (Amaranthus blitoides or Amaranthus graecizans), the introduced rough pigweed (Amaranthus retroflexus), and slender pigweed (Amaranthus hybridus) (Kinch 1967:77-78; McGregor 1986:180-184; U.S.D.A. 1971:142-146).

Although pigweed has similar economic qualities as goosefoot and can be locally abundant, it is generally less common in both the ethnographic and archaeological record. Several reports discuss the prehistoric cultivation of pigweed species (Jones 1971; Sauer 1950a, 1950b).

Almost 400 pigweed seeds, representing at least three species, were recovered from the Mitchell site (Benn 1974:59-60), and four pigweed seeds were recovered from the Travis I site (Haberman 1982:511-512). It is interesting that pigweed is more abundant than goosefoot at the Mitchell site, whereas it is far less common at the Antelope Dreamer and Travis I sites.

Prickly Pear (Opuntia)

Three prickly pear spines were recovered from Feature 107 in House 11 (Flotation Sample 525). It is possible these spines are from another type of cactus, but they compare favorably to those of the prickly pear. The pincushion cactus (Coryphantha) and the hedgehog cactus (Echinocereus), in addition to several Opuntia species, presently grow in the region (McGregor 1986:153-160).

These remains may be the result of spine removal prior to prickly pear pad or fruit consumption, both of which are mentioned in the ethnographic records (Table A4). Prickly pear remains are not common in comparable sites.

Bulrush or Sedge (Scirpus or Carex)

Three bulrush or sedge seeds were recovered from Feature 107 in House 11 (Flotation Sample 525). Several species of both bulrush and sedge currently grow in the region (McGregor 1986:1060-1093, 1107-1112). These grass-like plants are often found in wet habitats, such as marshes or river banks, but some species are found in the dry uplands (Johnson and Nichols 1970:23-24).

Several species of bulrush and sedge have edible stems and seeds (Table A4). The stems were also used for numerous utilitarian purposes. As mentioned above, several possible sedge family stems are also associated with Feature 107 at this site. Although the seeds are not common in comparable sites, seven bulrush or sedge seeds were recovered from the Travis I site (Haberman 1982:509).

Needle and Thread Grass (Stipa)

The twisted awns of needle and thread grass were recovered from both of the flotation samples. One fragment is associated with Feature 107 in House 11, and two fragments are from Feature 116 in House 11.

Four species of Stipa are presently growing in the region (McGregor 1986:1229-1231). Several ethnographic accounts note that the seeds are edible and that the plant has some utilitarian uses (Table A4). Although needle and thread grass awns have not been reported from comparable sites, 24 Stipa seeds are associated with House 3 at the Mitchell site (Benn 1974:59). As mentioned above, several of the grass seeds recovered from the Travis I site may be needle and thread grass seeds (Haberman 1982:508).

Serviceberry (Amelanchier)

Serviceberry (also called june berry) remains are associated with Feature 107 in House 11. A whole seed was recovered from Botanical Sample 524d and a fragment was in Flotation Sample 525.

Serviceberry is a moderately sized shrub with 8-11 mm long roundish dark red fruits. Two species, Saskatoon service berry (Amelanchier alnifolia) and dwarf june berry (Amelanchier sanguinea or Amelanchier humilis) currently grow in the region (McGregor 1986:368-369; Stephens 1973:226, 230). Serviceberry consumption is often mentioned in the ethnographic record (Table A4). Will and Spinden report june berry consumption by the Mandans at the turn of the century (1906:120), and Catlin mentions that the Mandans dried and stored the fruit for winter use (Catlin 1973:122). Eight serviceberry seeds are associated with the Extended Middle Missouri component at the Travis I site (Haberman 1982:514).

Composite Family (Compositae)

Two composite family seeds were recovered from Feature 107 in House 11 (Flotation Sampl 525). These seeds are in poor condition and could not be identified beyond the family level. Several members of this large and diverse family have edible seeds in addition to numerous additional economic qualities (Table A4). The family is well represented in the present regional environment (McGregor 1986:838-1021).

Over 200 composite family seeds were recovered from the Mitchell site. These seeds represent two species of Iva (povertyweed), and two species of Helianthus (Benn 1974:59-60). The sunflower seeds noted above are the only specifically identified composite family seeds from the Antelope Dreamer site.

Juniper (Juniperus)

One whole and one fragmentary juniper seed were recovered from the general fill of House 11. Two species of juniper, Rocky Mountain juniper (Juniperus scopulorum) and red cedar (Juniperus virginiana), currently grow in the region (McGregor 1986:72-73; Stephens 1973:14). Ethnographically, juniper wood was an important fuel source with several utilitarian uses, and several juniper parts are edible (Table A4). As discussed below, several of the wood samples from this site are juniper.

Buckwheat or Dock (Polygonum or Rumex)

Two charred buckwheat or dock seeds are associated with Feature 117 of House 11. As mentioned above, three of these seeds were also recovered from the West Bend site. The ecological and economic aspects of these genera were discussed in conjunction with that site.

Buffaloberry (Shepherdia)

A lone buffaloberry seed fragment was recovered from non-feature fill in House 11 (Botanical Sample 723). Although silver buffaloberry (Shepherdia argentea) is more common in the Lake Sharpe area at this time, russet buffaloberry (Shepherdia canadensis) also grows in the region. Both species range from shrubs to small trees with roundish 8 - 10 mm diameter glossy red or golden berries (Johnson and Nichols 1970:134; McGregor 1986:491-492; Stephens 1973:408-410).

These berries were consumed by numerous historical Indian groups (Table4) including those along the upper Missour River (Meyer 1977:2, 65). While visiting the Mandans in the 1830s, George Catlin wrote that the buffaloberry bush was quite distinct in appearance from the surrounding vegetation, and noted that the berries were "more palatable after an autumn frost". He was equally interested in the possible wine-making potential of the fruits (Catlin 1973:73). Catlin also mentions that the Mandan ate buffaloberries "...as we in civilized countries use dried currants..." and that they were dried and stored for winter use (Catlin 1973:115, 122).

Buffaloberry seeds were fairly common at the Travis I site. Sixty-one of the seeds are associated with three Extended Middle Missouri features, and one seed was recovered from an Extended Coalescent feature.

Black Mustard (Brassica)

A probable black mustard seed was recovered from the general fill of House 11 (Botanical Sample 707). Although several historical groups made use of Brassica species, the species currently identified from the region are introduced (McGregor 1986:304 - 305). Three of these are also listed as "Secondary Noxious" weeds (Kinch 1967:32-33). Two probable Brassica seeds were recovered from the Mitchell site (Benn 1974:59-60).

Mustard Family (Cruciferae)

A probable mustard family seed was recovered from Feature 116 in House 11 (Flotation Sample 827). The seed lacks the identifying landmarks to identify it beyond the family level.

The mustard family is large and diverse, with 36 genera identified for the Great Plains (McGregor 1986:293-333). Many members produce edible foilage and seeds (Table A4).

Panic Grass (Panicum)

A probable panic grass seed is associated with Feature 116 in House 11 (Flotation Sample 827). Two species in particular, witchgrass (Panicum capillare) and switchgrass (Panicum virgatum), are presently common in the region (Johnson and Nichols 1970:37-38; McGregor 1986:1200-1204; Stubbendieck et al. 1982:144-145). The seeds were eaten by several historic Indian groups (Table A4).

Buckthorn (Rhamnus)

A complete buckthorn seed was recovered from the general fill of House 11 (Botanical Sample 521). Buckthorn is a small to moderatly sized dense shrub with 6 - 8 mm long glossy black fruits. Although several species grow throughout the Great Plains, common buckthorn (Rhamnus cathartica) is presently the most common in the Lake Sharpe region (McGregor 1986:555-556; Stephen 1973:360-367). Buckhorn fruits are edible (Table A4).

Mallow (Sphaeralcea)

A mallow seed is associated with the fill of House 11 (Botanical Sample 723). This seed is from a small orangish flower common throughout much of the Great Plains. The red or scarlet mallow (Sphaeralcea coccinea) is perhaps the most common member of this genus in the project area (Johnson and Nichols 1970:139; McGregor 1986:251-252). Aside from several medicinal applications, mallow is of limited economic use (Table A4). A Malva seed, from a genera closely related to Sphaeralcea, was recovered from House 3 at the Mitchell site (Benn 1974:59).

Snowberry (Symphoricarpos)

One whole snowberry seed was recovered from the fill of House 11. This seed is from a small (6-9 mm diameter) white fruit which grows on a short shrub. Several species of snowberry grow throughout the Great Plains, with the western snowberry (Symphoricarpos occidentalis) the most common in the Lake Sharpe region (McGregor 1986:827-829; Stephens 1973:468-473). The berries were eaten by several historical Indian groups (Table A4).

Cocklebur (Xanthium)

A cocklebur bur fragment is associated with the fill from House 11 (Botanical Sample 723). The cocklebur is a common weedy plant with large course leaves and ovoid burs covered with hooked prickles (Johnson and Nichols 1970:150; Kinch 1967:172; McGregor 1986:1019 - 1020; U.S.D.A. 1971:444-445). The common cocklebur (Xanthium strumarium) frequently occurs in the region, and has several economic uses (Table A4). Although cocklebur seeds are not common in comparable sites, they were recovered from the Crow Creek site (Haug 1986:266).

Wood Identification

Eleven botanical samples consist of wood remains submitted for identification. Ten of these are wall posts or beams, whereas one of the samples (Botanical Sample 726) was recovered from the hearth of Feature 116 in House 11. The hearth sample was unidentifiable. The five post fragments from House 11 were identified as juniper (Juniperus) and cottonwood (Populus). The three cottonwood fragments are from Features 110, 114, and 115 and the two juniper segments are from Feature 111 and 112. Four of the post and beam fragments from House 15 are juniper (Features 100, 103, 105, and 106), and one is cottonwood (Feature 101).

The wood materials used in house construction has been discussed in several ethnographic accounts. Will and Spinden , during their excavation of the Double Ditch site, made the following observation: "One of the largest posts found in the house site was of ash, but most of the large ones were clearly cut out of cottonwood" (Will and Spinden 1906:182). Gilmore also notes that plains cottonwood (Populous sargentii) was used by the Omaha in the construction of the "buffalo tent" (Gilmore 1913a:321). The Arikara, as reported by Jean Baptiste Trudeau in 1796, used cottonwood and willow logs in the construction of their fortifications (as reported in Will and Hyde 1917:51). Cedar post and planks were also used in the construction of the Arikara "holy house or medicine lodge" (Will and Hyde 1917:51). It has been suggested that the availability of timber may have been a factor in Middle Missouri Subarea village location (Griffin 1977).

The Buzzing Yucca Site (39LM166)

Six botanical samples and three flotation samples were collected from the Buzzing Yucca site. All three of the flotation samples are hearth fill, with Flotation Samples 106 and 206 from Feature 100 in House 5, and Flotation Sample 605 from Feature 101 in House 6. All but one of the Botanical Samples are from House 5, with Botanical Sample 303 from a general site context. The macrobotanical remains from this site consist of eight charred seeds, three corn cob fragments, and one wood identification sample. Nine uncharred sunflower seeds, probably non-cultural, are also associated with these samples. No macrobotanical remains were recovered from Flotation Samples 106 and 206 (House 5, Feature 100), although Botanical Sample 207 is from the same context. The wood sample submitted for species identification from House 5 (Botanical Sample 104) is ash (Fraxinus).

All of the taxa of macrobotanical remains recovered from the Buzzing Yucca site were also recovered from the Antelope Dreamer site. The ecological and economical aspects of these species, in addition to a summary of comparative archeological remains, is discussed above in conjunction with that site.

Corn (Zea mays)

Corn kernals and cob fragments are associated with Botanical Samples 205a and 205b from the rooffall/floor zone of House 5. These remains consistes of three cob fragments and three kernals.

Wild Plum (Prunus americana)

The two wild plum seed fragments recovered from the Buzzing Yucca site are not associated with a specific house or feature. These two fragments were recovered from Botanical Sample 303.

Goosefoot (Chenopodium)

A Chenopodium Type 3 seed fragment was recovered from the hearth fill of Feature 101 in House 6 (Flotation Sample 605).

Cherry (Prunus)

A complete cherry seed is associated with Feature 100, a hearth in House 5 (Botanical Sample 207).

The Ghost Lodge Site (39ST120)

Flotation Sample 310a and Botanical Sample 310b were both recovered from a hearth (Feature 101) in House 2. The flotation sample contained one unidentifiable charred seed fragment, and the botanical sample is a wood sample identified as ash (Fraxinus).

A wood sample from the rooffall / floor zone of House 1 was submitted for identification. The wood is identified as cottonwood (Populus).

Discussion

The macrobotanical remains discussed above provide an interesting and diverse reflection of prehistoric plant use. Several trends are apparent when reviewing the data.

1. The remains represent the consumption of corn in addition to a wide variety of wild plant foods. The dependance on cultivated versus gathered botanical resourses has been questioned elsewhere. One of the propositions tested and documented at the Mitchell site was: "The belief that agricultural peoples did not depend heavily on wild plant resources for nutrition (or variation) probably is incorrect" (Benn 1974:56). A similar conclusion can be drawn from the macrobotanical evidence presented above.

   Ethnographic accounts concerning historical Indian groups of the region report the usage of a variety of cultivated and wild plants. While speaking of the historical Mandans, Meyer echoed Wood's earlier statement (Wood 1967:19): "The subsistence of the village tribes was obtained about equally from horticulture and hunting, with minor reliance on fishing and food gathering. This is a general statement and would need to be modified depending on the particular tribe and the particular time in history" (Meyer 1977:63). The sites analyzed here were occupied at a time when both horticulture and gathering were important.

2. Although it is difficult to determine the definite uses of various macrobotanical components, several factors including abundance, frequency, provenience, and associations of the remains, can all provide insight. The following subjective interpretations are based on these criteria.

   The macrobotanical assemblage from the Antelope Dreamer site includes 28 genera. The remains of nine of these genera, including corn, goosefoot, beeweed, sunflower, wild plum, groundcherry, wild grape, possible pea family, and cherry, probably represent the use of these species for food. The grass and sedge family remains, including both seeds and stems, probably

represent the use of these plants for utilitarian purposes. The remaining 14 genera possibly represent prehistoric plant use, but may be seeds naturally present in the local environment during site occupation. Similar remains from the Travis I site are also interprested as "... village weeds, seeds of which were incidentally carbonized during occupation of the site (Haberman 1982:510). It is interesting to note that the only buckthorn, snowberry, and definite buffaloberry seeds were recovered from the same sample. The remaining 11 genera were represented in only one or two samples each, with only one of each species per sample. All of these remains, 24 total, are from House 11 and they represent less than 1% of the total macrobotanical assemblage from the Antelope Dreamer site.

The macrobotanical remains from the remaining four sites are far less complex as there were less samples with fewer remains. The remains from the Buzzing Yucca site indicate the use of corn, wild plum, cherry, and goosefoot. The lack of additional remains from this site may reflect limited prehistoric use of plants, but more likely indicates less extensive excavations and perhaps poor preservation. The generally deeper soil contexts and the charred condition of both houses at the Antelope Dreamer site probably greatly increased the preservation of the macrobotanical remains. Similar conclusions are probable for the West Bend, Ghost Lodge, and Stony Point sites.

3. A review of some previous work in the region revealed a definite bias in the recovery of botanical remains. Prior to the development and widespread use of fine screening and flotation techniques only those botanical remains readily observed during excavation were recovered. This tended to select against small and moderately sized seeds, including grape and beeweed, and in particular those the size of goosefoot and groundcherry. With few exceptions, one might be left with the impression that the prehistoric populations along the Middle Missouri subarea survived on corn and wild plums, with some occasional cherries, squash, and beans. Whereas the importance of these foods cannot be underestimated, their remains reveal only a portion of the vegetal diet.

Kivett and Jensen state that "Floral remains from Initial Middle Missouri sites are extremely rare" and attribute this to poor preservation and the possibility that the Initial Middle Missouri people may have "... possessed only a rudimentary knowledge of horticulture" (1976:75-76). Perhaps it also reflects limited archeological recovery techniques.

4. David Benn presents an excellent discussion concerning the appropriateness of using ethnographic reports as analogies for archeological remains (Benn 1974:65). He points out that many of the ethnographers collected their data after the tribes had contact with Europeans, and that it is difficult to project human behavior back through the centuries. Benn concludes that these analogies are the best tool available to interpret the use of plants, and that the use of such literature is appropriate. The fact that many species mentioned in the ethnographic accounts are also recovered from archeological contexts supports this contention. A good example of a pertinent analogy are the reports that historic tribes used both wild and cultivated sunflowers simultaneously. This situation is reflected in the recovery of probable wild and cultivated sunflower seeds in the same archeological context from the Antelope Dreamer site.

The use of ethnographic analogy can also provide possible insight into prehistoric plant use where no archeological evidence is available. An example of this is the ethnographic accounts of the widespread consumption of the prairie turnip (Psoralea esculenta) by historical tribes of the upper Missouri River region (Catlin 1973:115; Gilmore 1913a:351; 1913b:365-366; 1977:40-41; Reid 1977:321; Rogers 1960:74; Will and Spindin 1906:120). The edible fleshy root of this plant would not preserve well and the use is only minimally documented in the archeological record (Benn 1974:62), but it is reasonable to assume that the plant was also important to the prehistoric populations.

5. No bean (Phyaseolus vulgaris), squash (Cucurbita pepo), or tobacco (Nicotiana rustica or Nicotiana quadrivalvis) remains were recovered from the sites. The remains of these three cultigins have been recovered from comparable sites, but are not as prevelent as corn or domesticated sunflower seeds. Several ethnographic accounts report the use of these plants by the historical tribes of the area (Gilmore 1913a:329-331, 347; 1977:7, 44-45, 62, 64-70; Will and Hyde 1917:59-69; Will and Spindin 1906:117-119; Wilson 1977:68-86, 121-126).

The remains of all three of these plants have been recovered from comparable sites. Bean remains have been recovered from the Dodd and Phillips Ranch sites (Lehmer 1954:132); the Mitchell site (Benn 1974:59-60); the Double Ditch site (Will and Spindin 1906:117-119); the Black Partizan site (Caldwell 1966:100); the Extended Middle Missouri component at the Travis I site (Haberman 1982:514); and the Hosterman site (Miller 1964:232). Squash

remains have been recovered from the Dodd and Phillips Ranch sites (Lehmer 1954:132); the Mitchell site (Benn 1974:59-60); the Double Ditch site (Will and Spindin 1906:117-119); the Black Partizan site (Caldwell 1966:100); the Hosterman site (Miller 1964:231-232); the Paul Brave site (Wood and Woolworth 1964:50); the Extended Middle Missouri component at the Travis I site (Haberman 1982:517-518), and graves in northern South Dakota (Wedel 1955:145). Tobacco remains are associated with the Mitchell site (Benn 1974:59-60) and the Extended Middle Missouri component at the Travis I site (Haberman 1982:516-517). Again, the small tobacco seeds may be under-represented at comparable sites due to limited botanical recoverey techniques during some of the earlier excavations. Haug notes that beans, squash, and tobacco remains were also absent from the Crow Creek site samples he analyzed (1986:266).

It is unclear why these remains are absent from the Lake Sharpe sites discussed above. The absence may be the result of poor preservation, sampling bias, and/or a limited or lack of use of these species by the prehistoric population. Botanical remains from the Extended Middle Missouri features at the Travis I site contained a wide range of domesticates, whereas corn and sunflower remains were the only domesticates associated with the the Extended Coalescent occupation. Haberman believes this lack of additional Extended Coalescent cultigen remains may reflect a small sample size.(1982:506). This is also the probable explanation for the absence of bean, squash, and tobacco remains at the Lake Sharpe sites. In particular, this is a good explanation for the lack of tobacco seeds. The small tobacco seeds would probably be recovered only from flotation samples as they are generally too small to be recovered by standard field screening (botanical samples). Only six relatively small flotation samples were analyzed from the Lake Sharpe sites, although the water screen samples did yield a number of small sized remains.

The lack of bean and squash remains is more puzzeling as these are large seeds. If these seeds were present at the site they probably would have been recovered during excavation and therefore collected as botanical samples. The absence of bean and squash remains at the Lake Sharpe sites may also reflect sampling error, but probably represents the limited prehistoric use of these plants.

Summary and Conclusions

The 1459 charred macrobotanical remains and 14 wood samples were recovered from six flotation samples and 48 botanical samples from five sites along Lake Sharpe in south central South Dakota. The cultural remains on these sites include the remnants of several structures dating to A.D. 900-1780. The majority of the remains from the Antelope Dreamer site (39LM146) date to A.D. 900 - 1400.

The charred macrobotanical assemblage includes seeds, corn cobs, cactus spines, stems, and fruits. The 31 taxa represent the prehistoric use of a wide variety of forbs, grasses, shrubs, and trees, including both domesticated and wild resourses. All of these plant taxa may have been utilized prehistorically, and several taxa in particular dominate the assemblage. The most common remains include goosefoot (Chenopodium) seeds, corn (Zea mays) kernals and cob fragments, sedge or grass family (Cyperaceae or Poaceae) seeds and stems, beeweed (Cleome serrulata) seeds, sunflower (Helianthus) seeds, wild plum (Prunus americana) seeds, groundcherry (Physalis) seeds, wild grape (Vitis) seeds, and cherry (Prunus) seeds. Several additional species were less frequent. The 14 wood samples, generally from structural supports, were identified as juniper (Juniperus), cottonwood (Populus). The ash (Fraxinus) wood from a hearth at the Ghost Lodge site may reflect the use of ash as fuel. Although many of the represented species, including corn, wild plum, cherry, sunflower, and goosefoot, have been associated with comparable sites, many of the remains are rare in comparable contexts. The historic use of the taxa represented by the remains is well documented in the ethnographic literature.

This assemblage offers an excellent opportunity to examine prehistoric plant use in the Middle Missouri subarea. The remains reflect the diverse use of both cultivated and wild species, in addition to several species which may represent the encouragement of wild species. With the exception of corn, most of the plants are native to the region and currently grow in the vicinity of Lake Sharpe. It is probable that the plants were also available to the prehistoric inhabitants in the local environment.

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APPENDIX B

IDENTIFIED AND MODIFIED VERTEBRATE REMAINS FROM EIGHT SITES IN THE LAKE SHARPE PROJECT AREA, CENTRAL SOUTH DAKOTA

by

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Introduction

Vertebrate faunal remains were recovered from each of the eight tested sites under study here. The general characteristics of the bone samples were discussed previously in the main body of the report. This section presents specific information on the identified vertebrate remains and modified bone specimens (i.e., bone tools) in the collections. Most identifications were made by Elaine Anderson; additional identification work was done by Don Lindsey and Chuck Wheeler. Wheeler compiled and organized the data and wrote the bulk of the report. Wheeler became seriously ill when the report was nearing completion, and his continued poor health made it impossible for him to finish it. Dennis Toom completed the faunal report when it was apparent that Wheeler's illness would prevent him from finishing. Toom's contribution has consisted mainly of organizing and editing Wheeler's work and providing additional discussion where necessary.

West Bend Site (39HU83)

A comparatively large faunal sample was collected from the eight test units excavated at the West Bend site. The bone relates to three different contexts that were defined for the site: (1) recent or historic, (2) mixed (both 1 and 3), and (3) Extended Coalescent (Table B1). These contexts were not always well separated or easily distinguished during excavation. The bulk of the faunal aggregate is believed to relate to the Extended Coalescent component regardless of its actual assignment. The distribution of species identifications by test unit is presented in Table B2. The size of the faunal collection is large in comparison to the other artifact categories (e.g., only 76 flakes were recovered). Much of the bone, especially that from the indeterminate large mammal class, was fragmented and small, suggesting that it was highly processed, perhaps during bone grease extraction.

Only three species were identified from the Extended Coalescent component: bison, deer, and cottontail (Table B1). The distal bone elements in the collection, such as skull fragments, teeth, ankle, and foot bones, are not associated with large meat masses. These elements are rarely transported for long distances if the animal is large. Rather, an animal is cut into transportable units at a kill/butchering site. The head and feet are usually left at the loci of butchering. The presence of deer and bison bones from the head and feet suggests that hunting was conducted near the site. Long bones of the larger species are underrepresented at least in part due to the high degree of bone processing conducted at this site. Ankle and foot bones in particular are compact, and they are poor sources of bone marrow and grease.

Interpretation of the primary Extended Coalescent component based on the vertebrate fauna indicates that the site functioned as a processing location. Further, hunting of deer and bison occurred nearby. The absence of mice, prairie dogs, lizards, snakes, and the like suggests that the site was not a habitation site with structures (cf. Antelope Dreamer, Buzzing Yucca, and Ghost Lodge site reports that follow). The interpretation of the Extended Coalescent component as a processing location, with hunting occurring nearby, is also consistent with interpretations based on other lines of evidence.

Table B1. Distribution of Species by Component (Cultural-Historical Unit), West Bend Site (39HU83).

Component	Identifications
Recent (Historic)	Indeterminate Artiodactyl: tooth fragment Indeterminate Large Mammal: fragments Bison bison: fragmentary glenoid fossa
Mixed	Bison bison: distal phalanx, long bone fragment, cf. Bison bison: fragments, 2 carpal fragments, proximal phalanx, long bone shank fragments, 4 rib midsections cf. Tympanuchus (Greater Prairie Chicken): proximal left humerus Indeterminate Large Mammal: fragments Sylvilagus sp. (cottontail): left humerus (recent) Artiodactyl (deer/pronghorn): thoracic vertebrae fragment Indeterminate Artiodactyl: 11 rib fragments, 3 tooth fragments, other fragments Indeterminate Medium-sized Mammal: rib fragments, fragments
Extended Coalescent	Bison bison: 2 tooth fragments, skull fragment, 1 rib fragment, 4 lone bone fragments cf. Bison: 2 carpal fragments, petrosal fragment, distal middle phalanx, 8 long bone fragments, other fragments, 8 tooth fragments Sylvilagus sp. (cottontail): lumbar vertebra, maxilla fragment Odocoilus (deer): 1 tooth, 2 tooth fragments Artiodactyl (deer/pronghorn): sesamoid Indeterminate Artiodactyl: 1 abscessed long bone fragment, 1 long bone fragment, 10 tooth fragments One juvenile long bone fragment Indeterminate Large Mammal: well over 1,000 misc. fragments

Table B2. Distribution of Species by Test Unit, West Bend Site (39HU83).

Test Unit	Identifications
Test 1	Indeterminate Artiodactyl Indeterminate Large Mammal
Test 2	cf. *Tympanuchus* (Greater Prairie Chicken) cf. *Bison* Indeterminate Large Mammal
Test 3	*Bison bison* Indeterminate Large Mammal
Test 4	*Odocoileus* sp. *Bison bison* cf. *Bison* Indeterminate Artiodactyl Indeterminate Large Mammal
Test 5	cf. *Bison* Indeterminate Artiodactyl Indeterminate Large Mammal
Test 6	*Bison bison* cf. *Bison* Small Artiodactyl (Deer/Antelope) Indeterminate Large Mammal
Test 7	*Sylvilagus* sp. *Bison bison* cf. *Bison* Small Artiodactyl (Deer/Antelope) Indeterminate Medium-sized Mammal Indeterminate Large Mammal
Test 8	*Sylvilagus* sp. *Bison bison* cf. *Bison* Indeterminate Artiodactyl Indeterminate Large Mammal

Antelope Dreamer Site (39LM146)

Virtually all of the vertebrate faunal material from the test excavations at the Antelope Dreamer site is attributed to the Initial Middle Missouri village component. The site sample includes specimens from at least twelve different species, constituting the most diverse fauna assemblage of any of the sites under study here (Table B3). Several inferences can be made based on the faunal remains recovered, although it must be remembered that this collection represents a very small sample of the total bone aggregate potentially contained in the site. The inferences based on the faunal remains relate mainly to site function and the size of the site catchment area.

First, the overall diversity of the faunal assemblage, particularly the presence of small mammalian species, indicates that the Initial Middle Missouri component functioned as a habitation site, most likely a permanent residential base. Obviously, the structural remains (earthlodges) documented at the site provide even stronger, incontrovertible evidence of an Initial Middle Missouri residential base (village) at the site. However, given prior knowledge of houses at the site, the faunal identifications themselves offer yet another perspective on the interpretation of the site and its content that seems to relate directly to the presence of structures. The bone aggregate from Antelope Dreamer contains small vertebrate species such as deer mouse, prairie dog, vole, and other small rodents. Specifically, the excavations into House 11 (Tests 5-8) and House 15 (Tests 3&9) yielded the remains of such small mammals (Table B4). In contrast, small mammalian species were not present in the bone sample from the West Bend site (39HU83), which was apparently not a habitation site and did not exhibit structures. While one can question a direct connection between small mammal bones and house remains, what we seem to have here is the suggestion that the structures themselves attracted and supported various species of small mammals, and the presence of such species by themselves may be an indicator of habitation sites with structural remains.

Following this reasoning, it can be noted that the bone samples from the houses exhibit the most diverse fauna, although it should be noted that comparatively little bone was recovered from extramural contexts at the site. House 11 (Tests 5-8) contained evidence of at least ten different species, and House 15 (Tests 3&9) contained evidence of no less than eight. Only a single large mammal species (bison) was positively identified among the bone taken from extramural test units (Tests 1, 2, and 4) (Table B4). Although processing of animal foods undoubtedly occurred outside the houses, eating and food preparation are activities that were conducted at least in part inside the structures. Further, as alluded to above, earthlodges would be benign habitats for small rodents. With intramural activities and the presence of rodent habitat, the relatively high faunal diversity of the bone samples from the houses is not unexpected, and such a factor might be useful in predicting the presence of structural remains at a site in the absence of other evidence. Additional research is needed to substantiate this point, but we can state that similar patterns were observed in the faunal samples from the Buzzing Yucca (39LM166) and Ghost Lodge (39ST120) village sites (see below).

Table B3. Distribution of Species by Component (Cultural-Historical Unit), Antelope Dreamer Site (39LM146).

Component	Identifications
Initial Middle Missouri	Indeterminate Large Mammal: numerous fragments, skull fragment Artiodactyla: tooth fragment Artiodactyla (deer, pronghorn): fragmentary foot bone Small Artiodactyl: rib fragment Small Rodent: juvenile vertebra, metatarsal Herpes (frog/lizard): long bone, skull fragment Fish: vertebrae, vertebrae fragments, scales, coracoid, rib Bird: 2 radius fragments, 3 misc. fragments Medium Bird: Coracoid fragment Small Bird: ulna fragment, distal femur, distal tibiotarsus, long bone fragment Hawk: metacarpal Bovidae: juvenile lumbar vertebra fragment cf. *Bison bison*: various fragments *Bison bison*: skull fragments, teeth, one vertebra, ribs, four scapula frags, ten carpals, 20 phalanges, two tarsals one metatarsal, two astragali, two cuneiform, five metapodials, 9 sesamoids, one unciform, 5 long bones, one malleolus, sesamoid *Mephitis mephitis* (striped skunk): humerus *Cynomys ludovicianus* (black tailed prairie dog): skull fragment, tibia cf. *Peromyscus* sp: scapula fragment *Peromyscus* sp. (deer mouse): ear bone, mandible, vertebra, femur, tibia, rib, humerus, ulna, femur, tibia, metatarsal *Microtus* sp. (vole): skull, mandible *Sylvilagus* sp. (cottontail): maxilla, tooth, phalanges, calcaneum *Lepus* sp. (jackrabbit): tooth, vertebra, femur, two tibia *Odocoilus* sp. (deer): skull fragment *Lynx cf. rufus* (bobcat): phalanx
Unknown	*Bison bison*: metatarsal, three phalanges cf. *Bison*: indeterminate Indeterminate Large Mammal
Ephemeral	Indeterminate Large Mammal Small Bird: tibiotarsus, metacarpal Small Rodent: tibia

Table B4. Distribution of Species by Test Unit, Antelope Dreamer Site (39LM146).

Test Unit	Identifications
Test 1	*Bison bison*
	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 2	Indeterminate Artiodactyl
	Indeterminate Medium Mammal
	Indeterminate Large Mammal
Test 3	Fish
	Indeterminate Herpes
	Avis (Small Bird)
	Avis (Medium Bird)
	Avis
	Sylvilagus sp.
	Lepus sp.
	Peromyscus sp. (Deer Mouse)
	Microtus sp. (Vole)
	Rodentia (small)
	Bison bison
	cf. *Bison*
	Bovidae
	Artiodactyl (small)
	Indeterminate Small, Medium, and Large Mammal
Test 4	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 5	Fish (small)
	Lizard/Snake
	Indeterminate Herpes
	Herpes (small)
	Avis
	Sylvilagus sp.
	Lepus sp.
	Lagomorph
	cf. *Peromyscus*
	Rodentia (small - mouse)
	Lynx rufus
	Bison bison
	Indeterminate Artiodactyl
	Indeterminate Artiodactyl (Deer/Pronghorn)
	Indeterminate Small, Medium, and Large Mammal

Table B4. Distribution of Species by Test Unit, Antelope Dreamer Site (39LM146) (Continued).

Test Unit	Identifications
Test 6	Fish
	Frog/Toad
	Avis, cf. Hawk sp.
	Avis (small)
	Avis (medium)
	cf. *Sylvilagus* sp.
	Lepus sp.
	Lagomorph
	Cynomys ludovicianus
	Mephitis mephitis (Striped Skunk)
	cf. *Odocoileus*
	Bison bison
	cf. *Bison*
	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 7	Fish (small)
	Fish
	Frog/Toad
	Lizard/Snake
	Avis
	Lagomorph
	Microtus sp.
	Lynx rufus
	cf. *Odocoileus*
	Bison bison
	cf. *Bison*
	Indeterminate Medium and Large Mammal
Test 8	Frog/Toad
	Avis (small)
	cf. *Sylvilagus*
	Lagomorph
	Peromyscus sp.
	Rodentia (small, mouse)
	Bison bison
	cf. *Bison*
	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 9	Avis (cf. Grouse/Prairie Chicken)
	cf. *Sylvilagus*
	Lepus sp.
	Lagomorph
	Bison bison
	cf. *Bison*
	Indeterminate Medium and Large Mammal

Second, the condition of much of the faunal remains indicates that food processing was an important part of the site activities. The number of small fragments of bone suggest that bone processing (probably bone marrow/grease extraction) was conducted at the site. Similar conclusions were arrived at regarding the West Bend site (see above) and the Buzzing Yucca site (see below). Bison remains are by far the most common in the site sample, and this most important of the native large mammal species of the Plains stands out clearly as the preferred quarry (Table B3). Other identified species of large mammal that would have been important sources of food and hides include deer and perhaps pronghorn. Miscellaneous identifications in addition to the small mammals already discussed include bobcat, cottontail, jackrabbit, and stripped skunk. Bones from birds, fish, frogs/toads, and lizards/snakes are also represented. Most of these could not be more specifically identified. In sum, the bulk of the bone aggregate consists of the remains of various local mammalian species, with the majority of the mammal bone coming from large-sized animals, especially bison. No large canid bones (dog/wolf/coyote) were identified in the sample, which is unusual for a village fauna collection. Large canid specimens, thought to primarily represent domestic dog, are often identified in village site assemblages. In the Post-Contact Coalescent bone sample from the Medicine Crow village site (39BF2), large canid elements were second only to bison among the identified remains (Toom et al. 1989).

Finally, the distribution of the various skeletal elements from the larger animal species indicates that hunting was conducted near the site. This inference is based on the presence of distal skeletal elements (head, feet, and ankle bones) among the identified bison remains (Table B3). Such elements are usually left at a kill/butchering site, so their presence in the Antelope Dreamer collection suggests that hunting was conducted at no great distance from the site. Deer remains include only a skull fragment and perhaps a foot bone fragment; the latter could also be pronghorn. It is probable that hunting was also conducted in areas far from the site, but there is no faunal evidence that would directly support such a conclusion.

Several modified bone specimens were recognized in the Antelope Dreamer sample. All were found in association with house remains, especially in the House 11 tests, and most were burned and fragmented to some degree by the burning and collapse of the earthlodge structures. Included in the sample are pieces of at least four split rib tools, the proximal fragment of what was probably a scapula hoe, and an awl (Table B5). Selected specimens are illustrated in Figure B1A-C. The specific function(s) of the rib tools is unclear, but they conform to the general spatulate tool forms identified in a number of other village collections. Most spatulate split rib specimens are thought to have functioned as pressure flakers or modeling tools (e.g., Ahler et al. 1989). The awl also deserves further comment. This specimen is made of what appears to be a piece of bison scapula. It is relatively thick and massive compared to most other awls and it may have used for heavy duty perforating/sewing tasks. The specimen once tapered to a sharp point, which is now broken and missing. A broad, shallow, smoothed notch is present some 3-3.5 cm back from the tip (Figure B1A). It is thought that this notched functioned as a thumb rest to provide increased leverage without slipping. The modified bone identifications are not included in the Tables B3 and B4 above.

Table B5. Summary Data on Bone Tools from the Antelope Dreamer Site (39LM146).

Cat. No.	Provenience	Identification	Description
526	Test 5, House 11, Floor; Feat. 116, Basin Hearth	cf. Bison bison, rib fragment	Small fragment of a split rib tool; smoothed and rounded tip section.
616	Test 6, House 11, Outer Rooffall	Indeterminate, small fragments	Two small bone fragments with surface polish.
726	Test 7, House 11, Floor; Feat. 116, Basin Hearth	cf. Bison bison, scapula piece? Figure B1A	Heavy duty awl; pointed tip with shallow and smoothed distal notch (thumb rest?).
726	Test 7, House 11, Floor; Feat. 116, Basin Hearth	cf. Bison bison, rib fragment	Small fragment of a split rib tool; smoothed and rounded tip section, polished, heavily burned.
817	Test 8, House 11, Outer Rooffall	Bison bison, scapula, proximal left half	Proximal scapula hoe piece (digging tool?); polished and weathered.
828	Test 8, House 11, Floor; Feat. 116, Basin Hearth	cf. Bison bison, rib fragments (2) Figure B1B	Split rib tool; shaped blunt end and margins, unsmoothed and unpolished (unfinished?).
916	Test 9, House 15 Rooffall/Floor	cf. Bison bison, numerous small rib fragments Figure B1C	Split rib tool(s); several fragments of at least one and possibly two tools; smoothed, rounded, and polished working ends and margins; heavily burned.

Windy Mounds Site (39LM149)

Only two small pieces of bone were recovered from the test excavations at the Windy Mounds site. A tooth fragment, probably from a bison, was recovered from Test 2 in Mound 2. A bone fragment from an indeterminate large mammal was recovered from Test 3 in an extra-mound context. Both specimens are assigned to the single late Plains Woodland component identified at the site.

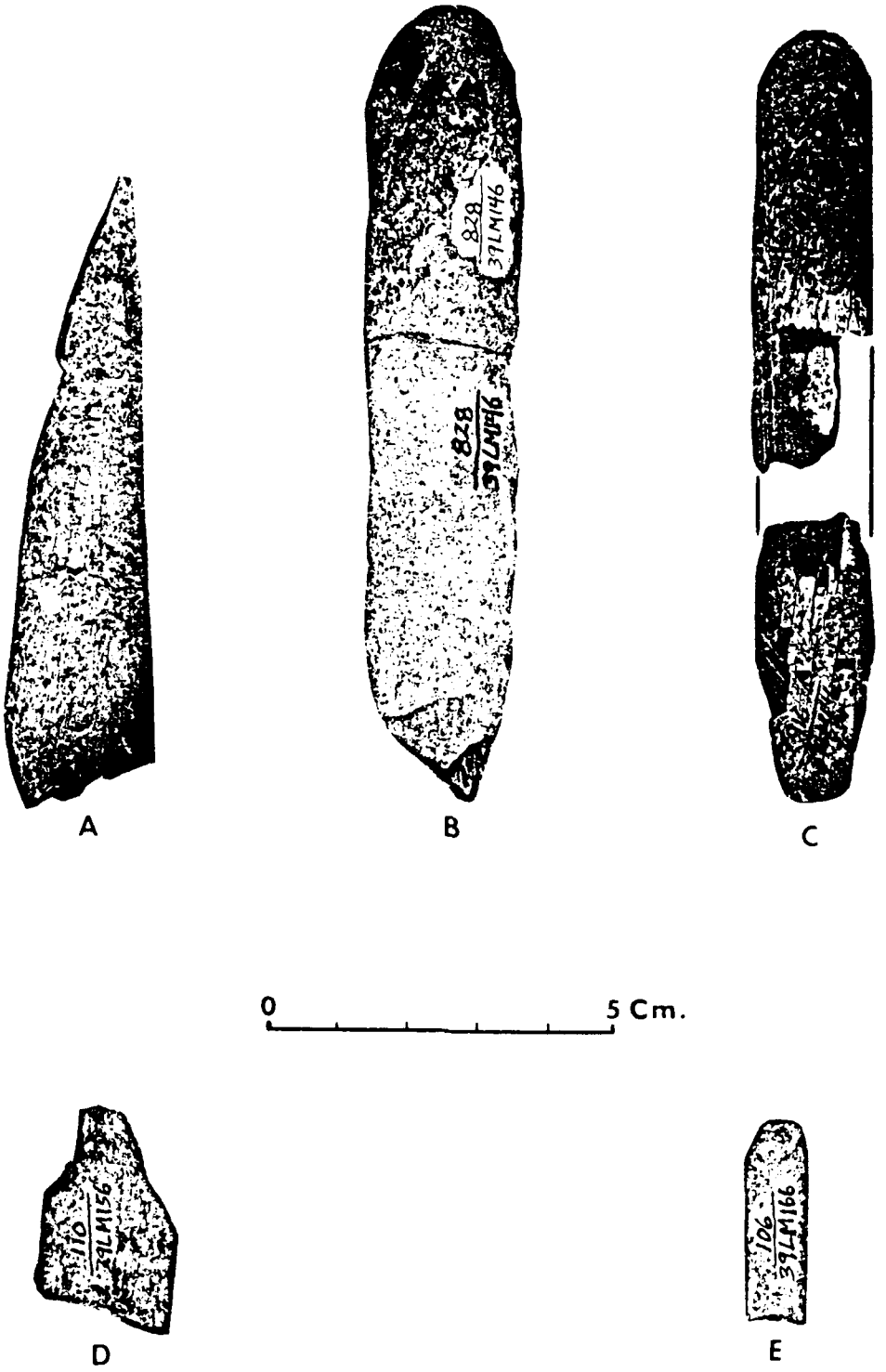

Figure B1. Photos of Selected Bone Tools from Various Sites. A: Scapula awl with thumb notch (39LM146; cat. no. 726). B: Rib tool (39LM146; cat. no. 828). C: Rib tool (39LM146; cat. no. 916). D: Rib tool fragment (39LM156; cat. no. 110). E: Spine flaking tool distal end (39LM166; cat. no. 106).

Table B6. Distribution of Species by Component (Cultural-Historical Unit), Betty Bite Off Site (39LM156).

Component	Identifications
Early Ceramic	Cynomys sp. (prairie dog): skull fragments, maxilla, mandible Sylvilagus sp. (cottontail): mandible, maxilla
Ephemeral	Cynomys sp. (prairie dog): skull fragments

Betty Bite Off Site (39LM156)

Few faunal remains were recovered from the test excavations at the Betty Bite Off site. Tests 1-2 (a 1 X 2 m excavation) produced some identifiable faunal remains, while Test 3 produced none. Tests 1-2 contained Cynomys (prairie dog) and Sylvilagus (cottontail) bones in association with the Early Ceramic component (Table B6). Other Cynomys bones were assigned to an ephemeral context, but these, too, probably relate to the Early Ceramic component. None of the bone from the Late Ceramic component was identifiable.

Two modified specimens were recovered from Tests 1 in association with the Early Ceramic component. The first (cat. no. 110) is a mid-section fragment (or possibly a distal end) of a split rib spatulate tool much like those just described above for the Antelope Dreamer site (39LM146). The specimen is probably from a bison; it is burned, and it exhibits smoothed and rounded margins with slight polish. One end may have been crudely cut to a point, or this roughly tapering end could be the result of breakage during use (Figure B1D). The second (cat. no. 111) is a small bone fragment with a smoothed and polished end. Beyond noting that it too is burned, there is nothing else to be said about this specimen.

Buzzing Yucca Site (39LM166)

Virtually all of the vertebrate faunal material from the test excavations at the Buzzing Yucca site is attributed to the Extended Coalescent village component and associated debris scatter. The site sample includes at least nine species, and it is one of the most diverse faunas from any of the sites under study here (Table B7), second only to that from the Antelope Dreamer site. Not surprisingly, the interpretation of the bone samples from the Buzzing Yucca and Antelope Dreamer villages is also very similar. However, it must be stated again these collections represents a very small fraction of all the bone potentially contained in these sites. As with the Antelope Dreamer site, the inferences arrived at here for Buzzing Yucca based on the faunal materials relate principally to site function and the size of the site catchment area.

Table B7. Distribution of Species by Component (Cultural-Historical Unit), Buzzing Yucca Site (39LM166).

Component	Identification
Extended Coalescent	Bison: rib, phalanges, tarsal, calcaneum, sesamoids, teeth, caudal vertebra, sternum Canis latrans (coyote): phalanges, metacarpal Microtus sp. (vole): vertebra, humerus, mandible, teeth Sylvilagus sp. (cottontail): metacarpal, metatarsal, premaxilla, tooth Cynomys sp. (prairie dog): calcaneum Odocoileus sp. (deer): carpal Artiodactyla: teeth, phalanges Carnivora: phalanx Rodentia: tooth, caudal vertebra, phalanx, long bone Large mammal: numerous bone fragments Medium mammal: vertebrae, phalanx, long bone
Ephemeral	Thomomys sp. (pocket gopher): skull fragment
Mixed (Recent and Extended Coalescent)	Large mammal: bone fragments Medium mammal: vertebra fragment Lagomorpha: long bone Avis: long bones

The overall diversity of the faunal assemblage, particularly the presence of small mammalian species, indicates that the Extended Coalescent occupation functioned as a habitation site, most likely a permanent residential base. Obviously, the structural remains (earthlodges) documented at the site provide even stronger, incontrovertible evidence of an Extended Coalescent residential base (village) at the site. However, once again, our prior knowledge of houses at the site makes the faunal identifications themselves all the more important to the interpretation of the site and its content in regard to the presence of structures. The bone aggregate from Buzzing Yucca contains small vertebrate species such as vole, prairie dog, and pocket gopher. Specifically, the excavations into House 5 (Tests 1-2) and House 6 (Test 6) yielded the remains of small rodents and prairie dog (Table B8). In contrast, such small mammal species were not present in the bone aggregate from the West Bend site (39HU83), which was apparently not a habitation site and did not exhibit structures. While one can view the small mammal remains as intrusive and not directly associated with the houses at Buzzing Yucca, one can also see the possibility that the structures themselves attracted and supported various species of small mammals, and that the presence of such species in a given archeological context may be an indicator of a habitation site with structural features.

Table B8. Distribution of Species by Test Unit, Buzzing Yucca Site (39LM166).

Test Unit	Identifications
Test 1	*Bison bison*
	cf. *Bison*
	Cynomys ludovicianus (Black-tailed Prairie Dog)
	cf. *Taxidea taxus* (Badger)
	Indeterminate Artiodactyl
	Indeterminate Medium Mammal
	Indeterminate Large Mammal
Test 2	*Sylvilagus sp.*
	Rodentia, Small
	Small Artiodactyl (deer, pronghorn?)
	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 3	*Canis cf. latrans*
	Bison bison
	cf. *Bison*
	Indeterminate Artiodactyl
	Indeterminate Large Mammal
Test 4	*Thomomys talpoides* (Northern Pocket Gopher)
	Odocoileus sp.
	Bison bison
	cf. *Bison*
	Indeterminate Large Mammal
Test 6	Avis (medium-sized bird)
	Sylvilagus sp.
	cf. Lagomorpha
	Cynomys ludovicianus
	Canis cf. latrans
	Carnivora
	Bison bison
	cf. *Bison*
	Indeterminate Medium Mammal
	Indeterminate Large Mammal

Once again, following this reasoning, it can be noted that the house excavations exhibit the most diverse fauna, even though the majority of the bone aggregate was recovered from extramural contexts. House 5 (Tests 1-2) contained evidence of six species, and House 6 (Test 6) had five. Extramural Tests 3 and 4 contained two and three species, respectively, and extramural Tests 5, 7, and 8 contained very few bones and produced no identifiable specimens (Table B8). Although processing of animal foods undoubtedly occurred outside, eating and some food preparation are activities that were conducted at least in part inside the houses. Further, as mentioned previously, earthlodges would be benign habitats for small rodents. With intramural activities and the presence of rodent habitat, the relatively high faunal diversity of the bone samples from the houses is not unexpected, and such a factor might be useful in predicting the presence of structural remains at a particular site in the absence of other evidence. As noted before, additional research is needed to substantiate this point, but similar patterns have already been observed in the fauna data from the Antelope Dreamer and Ghost Lodge (39ST120) village sites (see above and below).

The condition of much of the faunal remains indicates that food processing was an important part of the site activities. The number of small fragments of bone suggests that bone processing (probably bone marrow/grease extraction) was conducted at the site. Similar conclusions were also arrived at for the West Bend (39HU83) and Antelope Dreamer sites (see above). Bison remains are by far the most common of those recovered from an extramural context; the pocket gopher bones may be intrusive (Table B8). The presence of large canid (coyote?) bones may seem enigmatic in a food processing context, but they are clearly not foreign to most Plains Village site assemblages (e.g., Toom et al. 1989). Deer, indeterminate large mammal, and artiodactyl remains, all of which are big game species suitable for bone marrow processing, constitute the remainder of the identifiable material from extramural locations.

The distribution of the various skeletal elements from the larger animal species indicates that hunting was conducted near the site, as was also concluded for the Antelope Dreamer village. Such conclusions are based on the presence of head, feet, and ankle bones which are usually left at a kill/butchering site. The bison bone from Buzzing Yucca includes elements of both feet and skulls (phalanges, tarsal, sesamoids, and teeth). The presence of these distal skeletal elements from a large animal suggests that hunting was conducted at no great distance from the site. Deer remains include only a carpal. It is probable that hunting was also conducted in areas far from the site. There is, however, no faunal evidence for this.

Three bone tools are present in the Buzzing Yucca collection. One came from Level 5 in Test 1 (House 5) (cat. no. 106). It is a vertebral spine fragment from a large mammal that has been shaped and smoothed. The end has been rounded and/or blunted and it is therefore not an awl tip (Figure B1E). Similar specimens in the Medicine Crow village (39BF2) collection are interpreted as pressure flaking tools used in the manufacture of chipped stone tools (Ahler et al. 1989). On this basis, the specimen from Buzzing Yucca is inferred to be the distal (working) end of a spine flaker. The bone was split longitudinally during manufacture, and small areas of red coloring that may be ochre are present on the exposed cancellous tissue.

Two probable scapula hoes (digging tools) were recovered in pieces; both are from bison and both are from the right side of the animal. Two fragments (one tool?) came from Level 3 in Test 3 (cat. no. 303). One nearly complete right bison scapula and nine blade fragments were recovered from Level 1 in Test 4 (cat. no. 401). These specimens also probably represent one scapula hoe. Five of the fragments exhibit polish. The bone tools are not included in the identification tables for the site (Tables B7 and B8).

Ghost Lodge Site (39ST120)

Vertebrate faunal remains of several species were identified from the test excavations at the Ghost Lodge site (Tables B9 and B10). A pronghorn antelope vertebra was recovered from an ephemeral context along with bone fragments from a large mammal. The Post-Contact Coalescent component contained Bison, rodent, lizard, and indeterminate large mammal bones. The rodent and lizard bones could be intrusive, but these specimens were associated with House 2 (Tests 3-6), so they could be directly related to the structural remains at the site. Much the same phenomenon was also noted for Buzzing Yucca and the Antelope Dreamer village collections (see above). The 1 X 4 m trench (Tests 3-6) that was excavated across House 2 produced 65% of the identifiable bone (n=54). Test 7, an extramural test near House 2 and which also contained the Post-Contact Coalescent component, produced an additional 19% of the identifiable fauna.

The only potentially modified specimen (bone tool) in the collection is associated with House 2. Test 5, one of the tests within House 2, produced a split metacarpal with use wear in the form of polish on the tip (cat. no. 504). The metacarpal is identified as probably from a pronghorn antelope.

The distribution of identifiable faunal remains parallels that of the other classes of cultural material. The majority of the material was recovered from House 2, with the Post-Contact Coalescent levels from Test 7 producing the next largest sample.

Cache Site (39ST121)

The identifiable bone from the Cache site tests consists of a coyote (Canis latrans) mandible with teeth, mandible fragments from a large canid, and a large canid tooth. The large canid remains are most probably coyote, but they could not be identified below the family level (Canidae). All of the identified specimens were recovered from what is interpreted as a noncultural context in Test 1.

Table B9. Distribution of Species by Component (Cultural-Historical Unit), Ghost Lodge Site (39ST120).

Ephemeral	Antilocapra americana (pronghorn): vertebra Large mammal: bone fragments
Unknown	Large Mammal: 2 fragments Small Mammal: vertebra fragment
Post-Contact Coalescent	Bison bison: two scapulae, mandible and teeth, phalanges, and long bone fragments. Large mammal: numerous bone fragments. Lizard: vertebra Rodentia: rib, carpals, phalanges

Table B10. Distribution of Species by Test Unit, Ghost Lodge Site (39ST120).

Test Unit	Identifications
Test 2	Indeterminate Large Mammal
Test 3	Lizard Small rodent Bison bison Indeterminate Medium Mammal Indeterminate Large Mammal
Test 4	Indeterminate Large Mammal
Test 5	cf. Antilocapra americana Indeterminate Large Mammal
Test 6	Bison bison cf. Bison Indeterminate Large Mammal
Test 7	Bison bison Indeterminate Large Mammal
Test 8	Indeterminate Artiodactyl Indeterminate Large Mammal

Sitting Buzzard Site (39ST122)

Few identifiable vertebrate remains were recovered from the test excavations at the Sitting Buzzard site. The Post-Contact Coalescent component produced the widest variety of species (n=3), with only one species represented in each of the other two components (Table B11). Only Tests 2, 4, and 5 produced any identifiable bone; Tests 1, 3, and 6 contained no identifiable specimens (Table B12). The sample is too small to support any meaningful generalizations.

Table B11. Distribution of Species by Component (Cultural-Historical Unit), Sitting Buzzard Site (39ST122).

Component	Identifications
Late Plains Woodland	*Sylvilagus* (cottontail): skull fragment
Post-Contact Coalescent	*Antilocapra americana* (pronghorn): tibia *Bison bison*: phalanx, sesamoid, long bone fragment Medium Mammal: rib fragment
Unknown	*Bison bison*: skull fragment, rib fragment

Table B12. Distribution of Species by Test Unit, Sitting Buzzard Site (39ST122).

Test Unit	Identifications
Test 2	*Antilocapra americana* *Bison bison*
Test 4	*Bison bison* *Sylvilagus* sp.
Test 5	Indeterminate Medium Mammal *Bison bison*

Discussion and Conclusions

The faunal samples from the eight tested sites are too small to arrive at any firm, detailed generalizations regarding subsistence practices. An emphasis on bison procurement is, nonetheless, quite obvious and completely predictable given the regional setting. A variety of other locally available large, medium, and small mammalian species are also represented. This indicates that while bison may have been the primary quarry, other species of animal, both large and small, were not entirely neglected, and some of these other species were also probably subsistence and technological resources of some importance.

One of the more interesting and potentially useful findings is the occurrence of small mammal (rodent) bones among the earthlodge remains at the Antelope Dreamer, Buzzing Yucca, and Ghost Lodge village sites. It was speculated that this phenomenon is related to the presence of structures themselves in village sites, constituting a benign habitat for such small vertebrate species. If this is indeed the case, the presence of rodent bones could be used as an indicator of structural remains in the absence of other, more direct evidence. Additional research is required to confirm such an interpretation, however.

Another finding worth noting is the presence of appreciable numbers of distal as well as axial skeletal elements in the larger faunal samples, including those from the West Bend site, the Antelope Dreamer site, and the Buzzing Yucca site. Such a finding suggests for the components represented that hunting activities occurred at no great distance from the sites themselves. This is so because we would expect that the less desirable distal skeletal elements would be left as waste at kill/butchering sites if the products of a hunt were to be transported for any great distance. Thus, one can tentatively conclude that bison (and perhaps also deer) could be taken in some abundance within the immediate environs of the Lake Sharpe area throughout much of the Plains Village period (Initial Middle Missouri and Extended Coalescent variants). The presence of distal skeletal elements in these site samples can be used to further suggest that their site catchment areas (resource acquisition territories) were not necessarily very large with respect to animal resources. It seems logical to expect that long-distance hunting also took place to some degree, especially from the village sites (residential base sites), but there is no faunal evidence to support this view.

Computer Coding and Identification Data

The computer coding key applied to the identified bone that was recovered during the course of this project is presented in Table B13. This key was used to compile the identification data for each site and enter it into personal computer data base files (PC-File/R). These data are listed by site and catalog number, recovery type, and cultural-historical unit in Table B14. The identified bone data file for the West Bend site (39HU83) appears to have been lost; no data of this kind are readily available for the West Bend site collection.

Table B13. Identifiable Bone Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Field Label	Field Length	Field Code	Variable and Field Code Value
SITE AND PROVENIENCE DATA -- SEE PROVENIENCE CODE (Appendix D, Table D1)			
(TAXONOMIC IDENTIFICATION -- five different levels each with its own field)			
CLASS	5	*****	CLASS (identification field 1)
ORDER	5	*****	ORDER (identification field 2)
FAMILY	6	******	FAMILY (identification field 3)
GENUS	5	*****	GENUS (identification field 4)
SPECIE	6	******	SPECIES (identification field 5)
		00	indeterminate
		01	large mammal
		02	medium mammal
		47	small mammal
		49	indeterminate mammal
		03	Artiodactyl indeterminate
		04	Antilocapra americana -- pronghorn
		05	Cervus canadensis -- wapiti/elk
		50	Odocoileus sp. -- deer
		41	Ovis sp.
		06	Ovis aries -- domestic sheep
		07	Ovis canadensis -- bighorn sheep
		38	Bovidae
		08	Bos taurus -- domestic cattle
		09	Bison bison -- bison
		10	Carnivore indeterminate
		11	Canid indeterminate
		12	Canis familiaris -- domestic dog
		13	Canis latrans -- coyote
		53	Lynx rufus -- bobcat
		43	Martes sp. -- marten
		14	Martes nobilis -- noble marten
		15	Taxidea taxus -- badger
		46	Mephitis sp.
		16	Mephitis mephitis -- striped skunk
		17	rodent indeterminate
		37	Sciuridae -- marmots, squirrels, etc.
		39	Spermophilus sp.
		18	Spermophilus richardsonii -- R. gr. sqrl.
		44	Cynomys sp.
		19	Cynomys leucurus -- wt. prairie dog
		45	Thomomys sp.
		20	Thomomys talpoides -- n. pocket gopher
		21	Perognathus parvus -- G.B. pocket mouse
		22	Eutamias sp. -- chipmunk

Table B13. Identifiable Bone Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

Field Label	Field Length	Field Code	Variable and Field Code Value
		23	Peromyscus maniculatus -- deer mouse
		24	Peromyscus sp. -- mouse
		51	Peromyscus sp. -- deer mouse
		25	Microtus sp. -- vole
		26	Lagomorph indeterminate
		42	Lepus sp.
		27	Lepus townsendii -- w.t. jackrabbit
		28	Sylvilagus nuttallii -- mtn. cottontail
		29	Sylvilagus sp. -- cottontail
		48	Sylvilagus audubonii
		30	Bird indeterminate
		31	Ceutocercus urophasianus -- s. grouse
		32	Tympanuchus cupido -- g. prairie chicken
		33	fish indeterminate
		34	reptile indeterminate
		40	lizard
		35	Sceloporus undulatus -- w. fence lizard
		36	amphibian indeterminate
		52	frog/toad
		54	Herpes -- indeterminate amphibian
		99	grouped rodents
ELEMEN	6	******	BONE ELEMENT
		00	indeterminate
		01	occipital
		02	occipital condyle
		03	parietal
		04	frontal
		05	squamosal -- temporal
		06	petrous -- temporal
		07	malar
		08	lacrimal
		09	nasal
		10	auditory bulla
		11	skull
		12	horn core
		13	pre-maxilla
		14	maxilla
		54	maxilla with teeth
		15	mandible
		55	mandible with teeth
		16	mandibular condyle
		17	zygomatic arch
		18	tooth (isolated)
		19	tooth (associated)

Table B13. Identifiable Bone Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

Field Label	Field Length	Field Code	Variable and Field Code Value
		20	hyoid
		21	atlas
		22	axis
		23	vertebrae indeterminate
		24	cervical vertebrae
		25	thorasic vertebrae
		26	lumbar vertebrae
		27	sacrum (sacral vertebrae)
		28	caudal vertebrae
		29	rib
		30	scapula
		31	clavicle
		32	humerus
		33	radius
		34	ulna
		35	carpals
		36	metacarpals
		37	phalanges
		38	innominate
		39	illium
		40	ischium
		41	pubis
		42	femur
		43	patella
		44	tibia
		45	fibula
		46	tarsals
		47	metatarsals
		48	calcanium
		49	astragalus
		50	cunieforms (tarsals)
		51	metapodials
		52	sesamoids
		53	unciforms -- bovid capral
		56	long bone fragment
		57	grouped bones -- rodent
		58	egg shell
		59	coracoid
		60	tibiotarsus
		61	sternum
		62	scales
		63	urostyle
		64	malleolus

Table B13. Identifiable Bone Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

Field Label	Field Length	Field Code	Variable and Field Code Value
SYM	3	***	SYMMETRY
		0	indeterminate/not applicable
		1	right
		2	left
		3	medial (vert)
COND	4	****	CONDITION
		0	indeterminate/not applicable
		1	complete
		2	fragment
		3	incomplete
BUTCH	5	*****	BUTCHERING
		0	indeterminate/not applicable
		1	butcher marks present
		2	butcher marks absent
MOD	3	***	MODIFICATION (nonhuman alterations)
		0	indeterminate/not applicable
		1	carnivore marks
		2	rodent gnawing
		3	weathering
UTE	3	***	UTILIZATION (human)
		0	indeterminate/not applicable
		1	flaked
		2	polished
		3	striated
		4	flaked and polished
		5	flaked and striated
		6	polished and striated
		7	flaked, polished, and striated
TPOS	4	****	TOOTH POSITION
		0	indeterminate/not applicable
		1	upper
		2	lower
TCLS	4	****	TOOTH CLASSIFICATION
		0	indeterminate/not applicable
		1	incisor
		2	canine
		3	premolar
		4	molar
		5	combined (maxil/mandib)

Table B13. Identifiable Bone Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

Field Label	Field Length	Field Code	Variable and Field Code Value
FRAC	4	****	FACTURE TYPE
		0	indeterminate/not applicable
		1	green break
		2	dry break
		3	intersecting radial
		4	spiral fracture
AGE	3	***	AGE OF ANIMAL
		0	indeterminate/not applicable
		1	neonate
		2	juvenile
		3	adult
COUNT	5	*****	NUMBER OF ELEMENTS/PIECES/FRAGMENTS
SIZE	4	****	SIZE GRADE (G1, G2, G3, G4, or G5)

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987. Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	103	DS	EPM	01					00		02								03	G3
146	105	DS	EPM	01					00		02								02	G3
146	106	DS	IMM	01					00		02								01	G2
146	106	DS	IMM	01					00		02								31	G3
146	107	DS	IMM	01					00		02		3						01	G2
146	107	DS	IMM	01					00		02								7	G3
146	108	DS	IMM				09		56		02		3				1		1	G1
146	108	DS	IMM			03			56		02						1		8	G2
146	108	DS	IMM	01					00		02								35	G3
146	202	DS	IMM	01					11		02						1		1	G2
146	202	DS	IMM	01					00		02						1		3	G2
146	202	DS	IMM	02					56		02								2	G3
146	202	DS	IMM	01					00		02								11	G3
146	203	DS	IMM	01					00		02		3						1	G2
146	203	DS	IMM	01					00		02		3						26	G3
146	204	DS	IMM			03			06		02								1	G2
146	204	DS	IMM			03			56		02						1		2	G2
146	204	DS	IMM			03			00		02						1		2	G2
146	204	DS	IMM	01					00		02								47	G3
146	205	DS	EPM	01					00		02								2	G3
146	302	DS	EPM	01					00		02	00	00				00		07	G3
146	303	WS	EPM	30					60		03	00	00				00		01	G5
146	304	DS	IMM	01					00		02	00	03				01		03	G2
146	304	DS	IMM	01					00		02	00	00				00		56	G3
146	305	WS	IMM				09		18		02	00	00				00		01	G2
146	305	WS	IMM	01					00		02	00	00				00		09	G3
146	305	WS	IMM	33					23		03	00	00				00		01	G5
146	305	WS	IMM	37					00		02	00	00				00		01	G5
146	306	DS	IMM	01					00		02	00	00				01		01	G2
146	306	DS	IMM				42		44		02	00	00				01		01	G3
146	306	DS	IMM	02					34		02	00	00				01		02	G3
146	306	DS	IMM			38			FOOT		02	00	00				00		01	G3
146	306	DS	IMM	01					00		02	00	00				00		39	G3
146	307	WS	IMM				09		18		03	00	03	01	03				01	G2
146	307	WS	IMM	01					11		02	00	03				01		02	G2
146	307	WS	IMM	01					00		02	00	00				00		03	G3
146	307	WS	IMM	30					34		02	00	00				00		01	G5
146	307	WS	IMM	30					56		02	00	00				00		01	G5
146	307	WS	IMM	30					42		03	00	00				00		01	G5
146	308	DS	IMM	01					00		02	00	00				01		06	G2
146	308	DS	IMM	01					00		02	00	00				00		19	G3
146	309	WS	IMM	01					00		02	00	00				00		01	G3
146	309	WS	IMM	VERT					00		03	00	00				00	02	01	G5

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	310	DS	IMM	01					00		02	00	03			00			05	G2
146	310	DS	IMM			03			18		02	00	00			00			01	G3
146	310	DS	IMM	02					00		02	00	00			00			01	G3
146	310	DS	IMM	01					00		02	00	00			00			20	G3
146	311	WS	IMM	01					00		02	00	03			00		02	01	G2
146	311	WS	IMM	01					00		02	00	00			00			05	G3
146	311	WS	IMM					51	44		03	00	00			00			01	G5
146	311	WS	IMM					51	34		03	00	00			00			02	G5
146	311	WS	IMM					51	29		03	00	00			00			01	G5
146	311	WS	IMM					51	47		03	00	00			00			01	G5
146	311	WS	IMM					51	00		02	00	00			00			02	G5
146	311	WS	IMM					51	32	02	03	00	00			00			01	G4
146	311	WS	IMM					cf 51	30		02	00	00			00			01	G4
146	311	WS	IMM	47					00		02	00	00			00			01	G4
146	312	DS	IMM			03			02	01	03	02	03			01			01	G2
146	312	DS	IMM			03			56		02	01	00			01			01	G2
146	312	DS	IMM			03			00		02	01	00			01			01	G2
146	312	DS	IMM					09	52		03	02	03			02			01	G2
146	312	DS	IMM			03			29		02	00	00			00			01	G3
146	312	DS	IMM	01					00		02	00	00						16	G3
146	313	WS	IMM	01					11		02	02	00			01			01	G2
146	313	WS	IMM	01					00		02	02	00			00			01	G2
146	313	WS	IMM	01					00		02	00	00			00			06	G3
146	313	WS	IMM		17				23		03	00	00			00		02	01	G4
146	313	WS	IMM	30					33	00	02	00	00			00			02	G4
146	313	WS	IMM	30					00		02	00	00			00			03	G4
146	314	DS	IMM					25	11		03	00	00			00			01	G3
146	314	DS	IMM			38			26		03	02	03			00			01	G2
146	314	DS	IMM	01					56		02	02	00			01			01	G2
146	314	DS	IMM	01					00		02	00	00			00			01	G2
146	314	DS	IMM	01					00		02	00	00			00			29	G3
146	315	WS	IMM					09	00		02	02	03			01			02	G2
146	315	WS	IMM	01					00		02	00	00			00			09	G3
146	316	DS	IMM					29	48	01	01	02	00			00			01	G3
146	316	DS	IMM					cf 09	00		00	02	03			01			06	G2
146	316	DS	IMM	01					00		02	00	00			00			38	G3
146	317	WS	IMM	02					56		02	00	00			00			04	G3
146	317	WS	IMM		17				47	00	03	00	00			00			01	G5
146	317	WS	IMM	34					56	00	03	00	00			00			01	G5
146	317	WS	IMM	34					11		02	00	00			00			01	G5
146	317	WS	IMM	30					59		02	00	00			00			01	G4
146	317	WS	IMM	02					56		02	00	00			00			11	G3
146	317	WS	IMM	01					00		02	00	00			00			29	G3

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	402	DS	EPM	01					00		02		3						1	G2
146	403	DS	IMM			03			18		02								3	G3
146	403	DS	IMM	01					00		02								2	G3
146	404	DS	IMM	01					00		02								1	G3
146	405	DS	EPM	01					00		02								1	G3
146	502	DS	UKN				09		37		01	02	03				00		01	G1
146	506	DS	EPM	01					00		02	00	00				00		03	G3
146	508	DS	EPM	01					00		02	00	00				00		02	G3
146	510	DS	IMM			03			56		02	01	00				01		01	G2
146	510	DS	IMM	02					22		02	00	00				01		01	G3
146	510	DS	IMM	01					00		02	00	00				01		10	G3
146	511	WS	IMM	01					00		02	00	00				02		03	G3
146	512	DS	IMM	01					00		02	02	03				01		04	G2
146	512	DS	IMM	01					00		02	00	00				01		47	G3
146	513	WS	IMM			03			18		02	00	00		00	00	00		03	G3
146	513	WS	IMM	01					00		02	00	00				01		25	G3
146	513	WS	IMM	34					23		03	00	00				00		01	G4
146	513	WS	IMM		17				42	01	03	00	00				00	02	01	G5
146	513	WS	IMM	30					32		02	00	00				00		01	G5
146	514	DS	IMM				09		37	MID	01	01	03				00		01	G1
146	514	DS	IMM			03			25		03	02	03				02		01	G1
146	514	DS	IMM				09		35		03	00	03				02		01	G2
146	514	DS	IMM	01					00		02	01	00				01		01	G2
146	514	DS	IMM	01					00		02	02	03				01		11	G2
146	514	DS	IMM	01					00		02	00	00				00		169	G3
146	514	DS	IMM			03			18		02	00	00		00	00	00		01	G3
146	515	WS	IMM				09		49	00	02	02	03				02		01	G1
146	515	WS	IMM				09		37	MID	02	02	00				01		01	G1
146	515	WS	IMM				42		23	00	02	01	00				01		01	G2
146	515	WS	IMM	01					00		02	00	03				01		15	G2
146	515	WS	IMM	01					00		02	00	00				01		130	G3
146	515	WS	IMM			03			18		02	00	00		00	00	00		01	G3
146	515	WS	IMM			26			56		02	00	00				00		01	G3
146	515	WS	IMM				29		18		03	00	00		00	04	00		01	G4
146	515	WS	IMM		17				23		03	00	00				00		01	G4
146	515	WS	IMM	34					00		02	00	00				00		02	G4
146	515	WS	IMM	33					23		03	00	00				00		01	G5
146	515	WS	IMM	33					29		01	00	00				00		01	G5
146	516	DS	IMM				09		52		03	00	03				02		02	G2
146	516	DS	IMM				09		00		02	00	03				01		04	G2
146	516	DS	IMM	01					00		02	00	00				00		57	G3
146	517	WS	IMM				cf 09		00		02	00	00				01		01	G2
146	517	WS	IMM	01					00		02	00	03				01		15	G3
146	517	WS	IMM	47					56		03	00	00				02		01	G4

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	517	WS	IMM				51		42	01	03	00	00				00		01	65
146	517	WS	IMM	33					23		02	00	00				00		01	65
146	518	DS	IMM	01					00		02	02	00				01		02	62
146	518	DS	IMM	01					00		02	00	00				01		34	63
146	518	DS	IMM	30					59		02	00	00				00		01	63
146	519	WS	IMM			03			23		02	00	00				01	02	01	62
146	519	WS	IMM	01					00		02	00	00				01		03	63
146	519	WS	IMM	30					37		01	00	00				00		01	64
146	520	DS	IMM					09	37	MID	03	02	00				01		02	61
146	520	DS	IMM				cf 09		56		02	01	03				00		01	61
146	520	DS	IMM				cf 09		00		02	00	03				01		01	61
146	520	DS	IMM				09		52		01	02	00				00		01	62
146	520	DS	IMM				09		37	TRM	03	00	00				01		01	61
146	520	DS	IMM				09		35		02	00	00				01		01	61
146	520	DS	IMM				09		35		03	00	00				01		01	61
146	520	DS	IMM				09		51	MID	02	00	00				01		01	61
146	520	DS	IMM				09		56		02	01	00				01		01	61
146	520	DS	IMM				09		56		02	02	00				01		02	61
146	520	DS	IMM				cf 09		00		02	01	00				01		01	62
146	520	DS	IMM				cf 09		00		02	02	00				01		28	62
146	520	DS	IMM	01					00		02	02	00				01		116	63
146	521	WS	IMM				09		37	TRM	02	02	00				01		01	61
146	521	WS	IMM				09		53		01	02	00				00		01	61
146	521	WS	IMM				09		50		01	02	00				00		01	61
146	521	WS	IMM				09		35		03	00	00				02		01	62
146	521	WS	IMM				09		52		01	00	00				00		01	62
146	521	WS	IMM				09		23		02	02	00				01		01	62
146	521	WS	IMM				09		00		02	02	00				01		01	62
146	521	WS	IMM				cf 09		00		02	02	00				01		53	62
146	521	WS	IMM	47					56		02	00	00				02		01	63
146	521	WS	IMM	47					28		03	00	00				00	02	01	63
146	521	WS	IMM	47					00		02	02	00				01		03	63
146	521	WS	IMM	01					00		02	02	00				01		90	63
146	521	WS	IMM		17				44		03	02	00				00	02	01	64
146	521	WS	IMM		17				29		03	00	00				00		01	65
146	521	WS	IMM	34	FR/TD				30		02	00	00				00		01	64
146	521	WS	IMM	34	FR/TD				PELVIS		03	00	00				00		01	64
146	521	WS	IMM	34	FR/TD				44/45		03	00	00				00		01	64
146	521	WS	IMM	34	FR/TD				32		03	02	00				00		01	64
146	521	WS	IMM	34	FR/TD				56		02	00	00				00		04	65
146	521	WS	IMM	34	FR/TD				00		02	00	00				00		02	65
146	521	WS	IMM	30					56		03	00	00				00		02	65
146	521	WS	IMM		17				51		03	00	00	00			02	00	01	65

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39MU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	522	DS	IMM				09		35		01	02	00				00		01	G1
146	522	DS	IMM				09		50	01	01	00	00				02		02	G1
146	522	DS	IMM				09		37	MID	02	00	00				01		01	G1
146	522	DS	IMM				09		37	DIS	03	00	00				01		02	G1
146	522	DS	IMM				09		37	PRX	03	00	00				01		02	G1
146	522	DS	IMM				09		29		03	01	00				01		01	G1
146	522	DS	IMM				09		11		02	02	00				01		01	G1
146	522	DS	IMM				cf 09		00		02	02	03				01		03	G1
146	522	DS	IMM				09		52		01	02	00				00		07	G2
146	522	DS	IMM				09		35		01	02	00				00		05	G2
146	522	DS	IMM			26			32		03	00	00				01		01	G3
146	522	DS	IMM				cf 53		37		01	00	00	00			00		01	G3
146	522	DS	IMM		26				56		03	01	00	02			02	00	01	G3
146	522	DS	IMM	01					61		03	00	03	00			02	00	01	G3
146	522	DS	IMM	30					34		03	00	00	00			02	00	01	G4
146	522	DS	IMM						23		03	00	00	00			00	00	02	G4
146	522	DS	IMM			26			56		02	00	00	00			02	00	02	G3
146	522	DS	IMM	01					00		02	00	03	00			0102	00	251	G3
146	523	WS	IMM				09		47		02	00	00	00			03	00	01	G1
146	523	WS	IMM				09		37		02	00	00	00			0102	00	17	G2
146	523	WS	IMM		03				00		02	00	00	00			0102	00	54	G3
146	523	WS	IMM	52					PELVIS		03	00	00	00			00	00	01	G4
146	524	WS	IMM		03				00		02	00	03	00			0102	00	08	G2
146	524	WS	IMM		03				00		02	00	03	00			02	00	16	G3
146	524	WS	IMM	52					44	45	03	00	00	00			03	00	01	G4
146	526	WS	IMM				09		35		01	00	00	00			00	00	01	G2
146	526	WS	IMM				cf 09		29		02	00	00	00			02	00	02	G2
146	526	WS	IMM				cf 09		35		03	00	00	00			02	00	02	G2
146	526	WS	IMM				cf 09		00		02	00	03	00			02	00	22	G2
146	526	WS	IMM	01					00		02	00	03	00			02	00	51	G3
146	526	WS	IMM	47					37		02	00	00	00			00	00	01	G5
146	526	WS	IMM	52					00		00	00	00	00			00	00	03	G5
146	609	WS	EPM	30					36		03	00	00	00			00	00	01	G5
146	611	WS	IMM	01					00		00	00	03	00			02	00	5	G3
146	611	WS	IMM		17				56		02	00	00	00			00	00	1	G5
146	611	WS	IMM		17				44		03	00	00	00			00	00	1	G5
146	611	WS	IMM	30					00		02	00	00	00			00	00	2	G5
146	613	WS	IMM	33					23		01	00	00	00			00	00	2	G5
146	613	WS	IMM	01					00		02	00	03	00			0102	00	11	G3
146	614	DS	IMM		03				30		02	00	00	00			02	00	02	G1
146	614	DS	IMM				55		36		02	03	00	00			02	00	01	G2
146	614	DS	IMM				16		32	02	02	00	00	00			02	00	01	G2
146	614	DS	IMM	01					00		02	00	00	00			02	00	3	G2
146	614	DS	IMM				cf 29		56		02	00	00	00			01	00	01	G3

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	614	DS	IMM	01					00		02	00	00	00			0102	00	51	G3
146	615	WS	IMM	01					00		02	00	00	00			02	00	14	G3
146	615	WS	IMM		17				18		02	00	00	00		01	02	00	02	G5
146	615	WS	IMM		17				25		01	00	00	00			00	00	01	G5
146	615	WS	IMM		17				38		02	00	00	00			02	00	01	G5
146	615	WS	IMM	52					23		03	00	00	00			02	00	01	G5
146	615	WS	IMM	52					56		03	00	00	00			02	00	01	G5
146	616	DS	IMM				09		30	02	03	00	03	00			02	00	01	G3
146	616	DS	IMM	33					23		03	00	00	00			02	00	01	G2
146	616	DS	IMM	30					34		03	00	00	00			02	00	1	G3
146	616	DS	IMM	01					00		02	00	00	00			02	00	03	G2
146	616	DS	IMM		03				18		02	00	00	00			02	00	02	G3
146	616	DS	IMM	01					00		02	00	00	00			0102	00	65	G3
146	617	WS	IMM	01					00		02	00	03	00			02	00	7	G3
146	617	WS	IMM				cf 09		18		02	00	00	00			02	00	01	G3
146	617	WS	IMM				29		37		01	00	00	00			00	00	1	G5
146	617	WS	IMM		17				37		01	00	00	00			00	00	1	G5
146	617	11	IMM	33					23		01	00	00	00			00	00	1	G5
146	617	WS	IMM	30					00		03	00	00	00			00	00	01	G5
146	619	WS	IMM				09		51		02	00	03	00			02	00	01	G2
146	619	WS	IMM	01					00		02	00	00	00			02	00	02	G3
146	621	WS	IMM	01					00		02	00	00	00			01	00	2	G2
146	621	WS	IMM	01					00		02	00	00	00			02	00	09	G3
146	621	WS	IMM	00					00		02	00	00	00			02	00	2	G5
146	622	DS	IMM		03				32		02	00	00	00			02	00	01	G2
146	622	DS	IMM		03				00		02	00	00	00			0102	00	39	G2
146	622	DS	IMM				19		05		03	00	00	00			02	00	01	G3
146	622	DS	IMM		26				56		02	00	00	00			02	00	01	G3
146	622	DS	IMM		26				29		02	00	00	00			02	00	03	G3
146	622	DS	IMM	01					00		02	00	00	00			0102	00	111	G3
146	622	DS	IMM				09		37		02	00	00	00			02	00	01	G1
146	622	DS	IMM				cf 09		56		02	00	00	00			0102	00	02	G1
146	622	DS	IMM				09		52		01	00	00	00			00	00	01	G2
146	622	DS	IMM		03				37		02	00	03	00			02	00	02	G2
146	622	DS	IMM		03				36		02	00	03	00			02	00	01	G2
146	622	DS	IMM		03				37		02	00	03	00			02	00	01	G2
146	622	DS	IMM		03				29		00	00	00	00			02	00	01	G2
146	623	WS	IMM				09		37		03	00	00	00			02	00	01	G1
146	623	WS	IMM				09		37		02	00	00	00			02	00	01	G2
146	623	WS	IMM				09		56		02	01	00	00			01	00	01	G2
146	623	WS	IMM				09		00		02	00	00	00			02	00	01	G2
146	623	WS	IMM	01					00		02	00	00	00			0102	00	15	G3
146	623	WS	IMM		17				24		03	00	00	00			02	00	01	G5

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	627	WS	IMM				cf 50		36		02	00	00	00			02	00	01	61
146	627	WS	IMM				09		52		01	00	00	00			00	00	01	62
146	627	WS	IMM		03				56		02	01	00	00			02	00	1	62
146	627	WS	IMM		03				29		02	00	00	00			02	00	1	62
146	627	WS	IMM		03				00			02	00	00			02	00	6	62
146	627	WS	IMM				42		18		03	00	00	00		04	02	00	1	63
146	627	WS	IMM	01					00		02	00	00	00			0102	00	45	63
146	704	DS	UKN				09		47		01	01	00	00			00	03	01	61
146	704	DS	UKN				09		37		01	00	00	00			00	03	01	61
146	704	DS	UKN				09		37		01	00	00	00			00	03	01	61
146	704	DS	UKN				cf 09		00		02	00	03	00			02	00	06	62
146	704	DS	UKN	01					00		02	00	03	00			02	00	14	63
146	710	DS	IMM				25		55		03	00	00	00	02	04	02	00	01	63
146	710	DS	IMM	01					00		02	00	00				03	00	04	63
146	713	WS	IMM	01					00		02	00	00	00			02	00	05	63
146	713	WS	IMM		26				37		03	00	00	00			02	00	01	64
146	715	WS	IMM				09		37		03	01	00	00			01	00	01	62
146	715	WS	IMM				09		56		02	00	00	00			01	00	02	62
146	715	WS	IMM	01					00		02	00	03	00			02	00	10	63
146	716	DS	IMM	02					24		01	00	00	00			00	02	01	61
146	716	DS	IMM	02					00		02	00	03	00			0102	00	10	62
146	716	DS	IMM	01					00		02	00	03	00			0102	00	121	63
146	717	WS	IMM				50		11		02	00	00	00			02	00	01	62
146	717	WS	IMM	01					00		02	00	00	00			02	00	02	62
146	717	WS	IMM		26				35		01	00	00	00			00	00	01	63
146	717	WS	IMM	01					00		02	00	00	00			0102	00	39	63
146	717	WS	IMM				53		37		01	00	00	00			00	00	01	65
146	717	WS	IMM	33					23		01	00	00	00			00	00	01	65
146	717	WS	IMM	52					37		03	00	00	00			01	00	02	65
146	717	WS	IMM	00					00		02	00	00	00			00	00	03	65
146	722	DS	IMM				09		37		02	00	00	00			02	00	01	61
146	722	DS	IMM				09		30		02	00	03	00			02	00	01	61
146	722	DS	IMM				09		52		01	00	00	00			00	00	01	62
146	722	DS	IMM				09		49		02	00	00	00			02	00	01	62
146	722	DS	IMM				09		37		02	00	00	00			02	00	01	62
146	722	DS	IMM				09		37		02	00	00	00			02	00	01	62
146	722	DS	IMM				09		37		02	01	00	00			02	00	01	02
146	722	DS	IMM				09		37		02	00	00	00			01	00	01	62
146	722	DS	IMM				09		52		02	00	00	00			02	00	01	62
146	722	DS	IMM				09		00		02	00	00	00			0102	00	15	62
146	722	DS	IMM				09		29		02	00	00	00			0102	00	02	62
146	722	DS	IMM		26				29		03	00	00	00			02	00	01	63
146	722	DS	IMM	01					00		02	00	00	00			0102	00	66	63

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	723	WS	IMM	3354					00		03	00	00	00			02	00	01	62
146	723	WS	IMM				09		51		02	01	00	00			02	00	01	62
146	723	WS	IMM				09		30		02	00	00	00			02	00	01	62
146	723	WS	IMM				09		00		02	01	00	00			0102	00	12	62
146	723	WS	IMM	01					00		02	00	00	00			0102	00	49	63
146	723	WS	IMM	33					23		01	00	00	00			00	00	02	65
146	723	WS	IMM	33					62		01	00	00	00			00	00	03	65
146	723	WS	IMM	34					29		03	00	00	00			02	00	02	65
146	723	WS	IMM	34					23		01	00	00	00			00	00	02	65
146	726	DS	IMM				09		37		03	00	00	00			02	00	01	61
146	726	DS	IMM				09		37		03	00	00	00			01	00	01	61
146	726	DS	IMM				09		51		02	00	00	00			02	00	01	01
146	726	DS	IMM	01					00		02	00	00	00			0102	00	03	61
146	726	DS	IMM	33					59		01	00	00	00			00	00	01	63
146	726	DS	IMM	30					36		03	00	00	00			02	00	01	63
146	726	DS	IMM	01					35		01	00	00	00			00	00	01	63
146	726	DS	IMM	01					00		02	00	00	00			02	00	01	63
146	809	WS	EPM		17				44		03	00	00	00			02	00	01	65
146	815	WS	IMM	01					00		02	00	00	00			02	00	06	63
146	815	WS	IMM				cf 29		37		01	00	00	00			00	00	01	64
146	815	WS	IMM		17				18		01	00	00	00			00	00	01	64
146	815	WS	IMM	cf 52					63		02	00	00	00			02	00	01	64
146	815	WS	IMM	00					00		02	00	00	00			02	00	02	64
146	816	DS	IMM	01					00		02	00	00	00			0102	00	03	62
146	816	DS	IMM				44		44		03	00	00	00			02	00	34	63
146	816	DS	IMM	01					00		02	00	00	00			02	00	34	63
146	817	WS	IMM				09		30	02	02	00	03	02			0102	00	01	61
146	817	WS	IMM	00					00		02	00	00	00			0102	00	25	63
146	817	WS	IMM		17				32		03	00	00	00			02	00	01	65
146	817	WS	IMM		17				29		02	00	00	00			02	00	01	65
146	817	WS	IMM		17				33		03	00	00	00			02	00	01	65
146	817	WS	IMM	30					56		03	00	00	00			02	00	01	65
146	818	DS	IMM	01					00		02	00	00	00			02	00	01	62
146	818	DS	IMM				09		64		01	00	00	00			00	00	01	61
146	818	DS	IMM		26				23		02	00	00	00			00	02	01	63
146	818	DS	IMM		26				46		01	00	00	00			00	00	01	63
146	818	DS	IMM	01					00		02	00	00	00			02	00	17	63
146	821	WS	IMM				24		15	01	03	00	00	00			02	00	01	65
146	821	WS	IMM				24		15	02	03	00	00	00			02	00	01	65
146	821	WS	IMM				24		42	01	01	00	00	00			00	00	01	65
146	821	WS	IMM				24		44		03	00	00	00			02	00	01	65
146	821	WS	IMM				24		44		02	00	00	00			02	00	01	65
146	821	WS	IMM				24		10		02	00	00	00			02	00	01	65
146	821	WS	IMM				24		23		03	00	00	00			02	00	01	65

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Antelope Dreamer Site (39LM146)																				
146	821	WS	IMM		17				51		03	00	00	00			02	00	01	G5
146	822	DS	IMM		03				00		02	00	00	00			0102	00	8	G2
146	822	DS	IMM	30					56		02	00	00	00			02	00	02	G3
146	822	DS	IMM		03				37		02	00	00	00			02	00	01	G3
146	822	DS	IMM	01					00		02	00	00	00			0102	00	89	G3
146	823	WS	IMM	01					00		02	00	00	00			02	00	01	G2
146	823	WS	IMM	01					00		02	00	00	00			02	00	03	G3
146	823	WS	IMM				cf 29		56		02	00	00	00			02	00	17	G4
146	823	WS	IMM	01	17				32	02	03	00	00	00			02	00	01	G4
146	823	WS	IMM		17				44		02	00	00	00			02	00	01	G4
146	823	WS	IMM		17				56		02	00	00	00			02	00	01	G4
146	823	WS	IMM		17				23		01	00	00	00			00	00	01	G4
146	828	DS	IMM				09		46		03	00	00	00			02	00	01	G1
146	828	DS	IMM				cf 09		52		01	00	00	00			00	00	01	G2
146	828	DS	IMM		03				00		02	00	00	00			02	00	11	G2
146	828	DS	IMM				cf 09		29		03	00	00	01			02	00	01	G2
146	828	DS	IMM				29		14		02	00	00	00			02	00	01	G3
146	828	DS	IMM	01					00		02	00	03	00			0102	00	82	G3
146	904	DS	IMM				cf 09		35		02	00	03	00			02	00	01	G2
146	904	DS	IMM	01					00		02	00	00	00			0102	00	35	G3
146	910	DS	IMM				cf 09		11		02	00	00	00			02	00	01	G1
146	910	DS	IMM				cf 09		56		02	00	00	04			0102	00	01	G1
146	910	DS	IMM				09		51		02	00	03	00			02	00	01	G2
146	910	DS	IMM	01							02	00	00	00			02	00	11	G2
146	910	DS	IMM	02					11		02	00	00	00			02	00	02	G3
146	910	DS	IMM	02					56		02	00	00	00			04	00	03	G3
146	910	DS	IMM	01					00		02	00	00	00			0102	00	53	G3
146	912	DS	IMM				09		37		02	00	00	01			01	00	01	G1
146	912	DS	IMM				09		00		02	00	04	00			02	00	01	G1
146	912	DS	IMM				09		46		01	00	00	00			00	00	01	G1
146	912	DS	IMM				cf 09		00		02	00	00	00			0102	00	13	G1
146	912	DS	IMM		26				56		02	00	00	00			02	00	02	G3
146	912	DS	IMM	01					00		02	00	00	00			0102	00	60	G3
146	912	DS	IMM				cf 32		36		03	00	00	00			02	00	01	G3
146	914	DS	IMM				42		42		02	00	00	00			01	00	01	G2
146	914	DS	IMM				09		35		03	00	00	00			02	00	01	G2
146	914	DS	IMM				09		00		02	00	00	00			0102	00	06	G2
146	914	DS	IMM	01					00		02	00	00	00			0102	00	30	G3
146	917	WS	IMM	01					00		02	00	00	00			0102	00	02	G2
146	917	WS	IMM	01					00		02	00	00	00			02	00	07	G3
146	917	WS	IMM				cf 29		47		02	00	00	00			01	00	01	G4

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Windy Mounds Site (39LM149)																				
149	203	DS	LPW				cf 09		18		02	00	00	00			00	00	01	63
149	302	DS	LPW	01					00		02	00	00	00			02	00	01	63
Betty Bite Off Site (39LM156)																				
156	110	DS	ERC				44		14	02	02	00	00	00	01	04	02	00	01	63
156	110	DS	ERC				44		11		02	00	00	00			02	00	01	63
156	111	DS	ERC				29		55	02	03	00	00	00	02	0304	02	00	01	63
156	211	DS	ERC				44		55	01	02	00	00	00	01	04	02	00	01	63
156	211	DS	ERC				44		05	01	02	00	00	00			00	00	01	63
156	211	DS	ERC				29		14	01	02	00	00	00			02	00	01	63
156	212	DS	ERC				44		05	02	02	00	00	00			02	00	01	63
156	213	DS	EPM				44		05	02	02	00	00	00			02	00	01	63
156	213	DS	EPM				44		11		02	00	00	00			02	00	01	63
Buzzing Yucca Site (39LM166)																				
166	101	DS	EC	01					00		02	00	00	00			02	00	02	63
166	102	DS	EC	01					00		02	00	00	00			02	00	01	63
166	103	DS	EC	01					00		02	01	00	00			02	00	04	62
166	103	DS	EC		03				18		02	00	00	00			02	00	01	63
166	103	DS	EC	01					00		02	00	00	00			02	00	05	63
166	104	DS	EC				09		46		01	00	00	00			00	00	01	62
166	104	DS	EC		03				00		02	00	00	00			02	00	15	62
166	104	DS	EC				cf 15		18		03	00	00	02			02	00	01	63
166	104	DS	EC				cf 09		52		03	00	00	00			02	00	01	63
166	104	DS	EC				cf 09		61		02	00	00	00			02	00	01	63
166	104	DS	EC	01					00		02	00	00	00			0102	00	160	63
166	105	MS	EC	01					00		02	00	00	00			02	00	03	63
166	106	DS	EC		03				37		02	00	00	00			02	00	01	62
166	106	DS	EC		03				00		02	00	00	00			0102	00	08	62
166	106	DS	EC				19		48	01	01	00	00	00			00	00	01	63
166	106	DS	EC	02					23		03	00	00	00			02	00	02	63
166	106	DS	EC	02					56		02	00	00	00			02	02	01	63
166	106	DS	EC	02					37		03	00	00	00			02	00	01	63
166	106	DS	EC	02					56		02	00	00	00			02	00	01	63
166	106	DS	EC	01					00		02	00	00	00			0102	00	112	63
166	202	DS	EC	01					00		02	00	00	00			02	00	02	03
166	203	DS	EC		03				00		02	00	00	00			02	00	01	62
166	203	DS	EC	01					00		02	00	00	00			02	00	13	63
166	204	DS	EC	01					00		02	00	00	00			02	00	03	62
166	204	DS	EC		03				37		02	00	00	00			00	00	01	63
166	204	DS	EC		03				00		02	00	00	00			0102	00	41	63

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Buzzing Yucca Site (39LM166) (Continued)																				
166	205	WS	EC		03				37		02	01	00	00			02	00	02	G2
166	205	WS	EC		03				00		02	00	00	00			02	00	03	G2
166	205	WS	EC	01					00		02	00	00	00			02	00	28	G3
166	205	WS	EC				29		18		03	00	00	00	02	01	02	00	01	G4
166	205	WS	EC		17				18		03	00	00	00		01	02	00	02	G4
166	205	WS	EC		17				28		02	00	00	00			02	00	01	G4
166	205	WS	EC	01					00		02	00	00	00			02	00	01	G4
166	206	DS	EC		03				00		02	00	00	00			02	00	06	G2
166	206	DS	EC	01					00		02	00	00	00			0102	00	104	G3
166	207	WS	EC	01					00		02	00	00	00			02	00	03	G2
166	207	WS	EC	01					00		02	00	00	00			0102	00	30	G3
166	207	WS	EC				44		49		01	00	00	00			00	00	01	G3
166	207	WS	EC				25		15		03	00	00	00			02	00	01	G4
166	207	WS	EC				25		18		01	00	00	00		04	00	00	05	G4
166	207	WS	EC				25		18		03	00	00	00	02	01	02	00	03	G4
166	207	WS	EC				25		18		03	00	00	00	01	01	02	00	01	G4
166	207	WS	EC				25		48	02	01	00	00	00			00	00	01	G4
166	207	WS	EC				25		28		02	00	00	00			02	00	02	G4
166	207	WS	EC				25		32		03	00	00	00			02	00	01	G4
166	207	WS	EC				29		36		02	00	00	00			02	00	01	G4
166	207	WS	EC				29		47		02	00	00	00			02	00	01	G4
166	207	WS	EC		17				37		01	00	00	00			00	00	01	G4
166	207	WS	EC		17				56		02	00	00	00			02	00	01	G4
166	207	WS	EC	33					23		01	00	00	00			00	00	01	G4
166	301	DS	EC				09		37		02	00	03	02			02	00	01	G1
166	301	DS	EC		03				00		02	00	00	00			02	00	08	G2
166	301	DS	EC				cf 09		28		02	00	00	00			00	00	01	G3
166	301	DS	EC	01					00		02	01	00	00			02	00	54	G3
166	302	DS	EC				09		37		02	00	00	00			02	00	01	G1
166	302	DS	EC				09		52		01	00	00	00			00	00	01	G2
166	302	DS	EC				cf 09		00		02	00	00	00			02	00	16	G2
166	302	DS	EC				13		37		01	00	00	00			00	00	01	G3
166	302	DS	EC	01					00		02	00	00	00			0102	00	95	G3
166	303	DS	EC				09		52		01	00	00	00			00	00	01	G2
166	303	DS	EC				cf 09		00		02	00	00	00			0102	00	12	G2
166	303	DS	EC	01					00		02	00	00	00			02	00	23	G2
166	401	DS	EC				09		29		02	00	00	00			02	00	01	G1
166	401	DS	EC	01					00		02	00	00	00			02	00	03	G2
166	401	DS	EC	01					00		02	00	00	00			02	00	28	G3
166	402	DS	EC				09		37		01	00	03	00			00	00	03	G1
166	402	DS	EC				09		37		02	00	00	00			02	00	02	G1
166	402	DS	EC				09		48	02	02	00	00	00			02	00	01	G1
166	402	DS	EC				50		35		01	00	00	00			00	00	01	G2
166	402	DS	EC				09		52		01	00	03	00			00	00	01	G2

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Buzzing Yucca Site (39LM166) (Continued)																				
166	402	DS	EC			cf	09		00		02	01	00	00			0102	00	10	G2
166	402	DS	EC			cf	09		18		02	00	00	00			02	00	02	G3
166	402	DS	EC	01					00		02	00	00	00			02	00	47	G3
166	402	DS	EC			cf	09		00		02	00	03	00			02	00	01	G1
166	403	DS	EC	01					00		02	00	00	00			02	00	03	G2
166	403	DS	EC	01					00		02	00	00	00			02	00	27	G3
166	404	DS	EPM				45		11		03	00	00	00	01	03	02	00	01	G2
166	404	DS	EPM	01					00		02	00	03	00			02	00	01	G3
166	601	DS	MIX	30					32		02	00	00	00			02	00	01	G2
166	601	DS	MIX				44		42		03	00	00	00			02	00	01	G3
166	601	DS	MIX	26					56		02	00	00	00			02	00	01	G3
166	601	DS	MIX	30					56		02	00	00	00			02	00	01	G3
166	601	DS	MIX	01					00		02	00	00	00			02	00	05	G3
166	602	DS	MIX				cf	09	00		02	00	00	00			02	00	01	G2
166	602	DS	MIX	30					56		02	00	00	00			0102	00	01	G3
166	602	DS	MIX	02					23		02	00	03	00			02	00	01	G3
166	602	DS	MIX	01					00		02	00	00	00			02	00	06	G3
166	603	DS	EC	01					00		02	00	00	00			02	00	04	G2
166	603	DS	EC				29		13	02	02	00	00	00			02	00	01	G3
166	603	DS	EC	01					00		02	00	00	00			0102	00	29	G3
166	604	DS	EC	01					00		02	00	00	00			0102	00	03	G2
166	604	DS	EC				44		34		03	00	00	00			02	00	01	G3
166	604	DS	EC	01					00		02	00	00	00			02	00	30	G3
166	605	DS	EC				09		52		03	00	00	00			02	00	01	G2
166	605	DS	EC	01					00		02	00	00	00			02	00	03	G2
166	605	DS	EC				13	cf 13	36		03	00	00	00			02	00	01	G3
166	605	DS	EC				13	cf 13	37		01	00	00	00			00	00	01	G3
166	605	DS	EC	01					00		02	00	00	00			0102	00	60	G3
166	701	DS	EC	01					00		02	00	00	00			02	00	03	G3
166	702	DS	EC	01					00		02	00	00	00			02	00	04	G3
166	801	DS	EC	01					00		02	00	00	00			02	00	01	G2
166	801	DS	EC	01					00		02	00	00	00			02	00	09	G3
166	802	DS	EC	01					00		02	00	00	00			02	00	01	G2
166	802	DS	EC	01					00		02	00	00	00			02	00	04	G3
166	802	DS	EC		10				37		01	00	00	00			00	00	01	G3
166	803	DS	EPM	01					00		02	00	00	00			02	00	01	G3

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Ghost Lodge Site																				
120	202	DS	PCC	01					00		02	00	00	00			02	00	01	G3
120	203	DS	PCC	01					00		02	00	00	00			02	00	02	G3
120	204	DS	PCC	01					00		02	00	00	00			02	00	02	G3
120	303	DS	EPM	01					00		02	01	00	00			02	00	01	G3
120	306	DS	PCC	01					00		02	00	00	00			02	00	09	G3
120	306	DS	PCC	01					00		02	00	00	00			0102	00	01	G2
120	306	DS	PCC				09		37		03	00	03	00			02	00	01	G1
120	308	DS	PCC				09		30		02	01	00	00			02	00	01	G1
120	308	DS	PCC	01					00		02	00	00	00			02	00	02	G3
120	309	WS	PCC				09		56		02	00	00	00			02	00	01	G1
120	309	WS	PCC				09		00		02	00	00	00			02	00	05	G2
120	309	WS	PCC	01					00		02	00	00	00			0102	00	60	G3
120	309	WS	PCC		40				23		01	00	00	00			00	00	01	G4
120	309	WS	PCC		17				37		01	00	03	00			00	00	01	G4
120	309	WS	PCC		17				29		02	00	03	00			04	00	01	G4
120	309	WS	PCC		17				35		03	00	00	00			02	00	01	G4
120	309	WS	PCC		17				37		01	00	00	00			00	00	01	G4
120	310	DS	PCC	01					56		02	00	00	00			02	00	01	G2
120	310	DS	PCC	01					00		02	00	03	00			02	00	01	G2
120	310	DS	PCC	01					00		02	00	00	00			0102	00	41	G3
120	310	DS	PCC	02					11		02	00	00	00			02	00	02	G3
120	404	DS	EPM	01					29		02	00	03	00			02	00	02	G3
120	405	DS	EPM	01					00		02	00	00	00			02	00	02	G3
120	406	DS	PCC	01					00		02	00	00	00			02	00	05	G3
120	407	DS	PCC	01					56		02	00	01				02	00	01	G3
120	407	DS	PCC	01					00		02	00	00	00			02	00	01	G3
120	504	DS	EPM				04		23		02	01	00	00			02	00	01	G3
120	506	DS	PCC	01					00		02	00	00	00			02	00	03	G2
120	506	DS	PCC	01					00		02	00	00	00			02	00	11	G3
120	507	WS	PCC	01					00		02	00	00	00			02	00	01	G3
120	603	DS	EPM	01					00		02	00	00	00			02	00	01	G3
120	604	DS	PCC	01					50		02	00	00	00			02	00	01	G2
120	604	DS	PCC	01					00		02	00	00	00			02	00	05	G3
120	605	DS	PCC				09		30		02	00	03	00			00	00	01	G1
120	605	DS	PCC	01					56		02	00	03	00			02	00	01	G2
120	605	DS	PCC	01					00		02	00	00	00			02	00	06	G3
120	606	DS	PCC				cf 09		56		02	00	00	00			01	00	01	G2
120	606	DS	PCC	01					00		02	00	00	00			02	00	03	G3
120	702	DS	EPM	01					00		02	00	00	00			02	00	02	G3
120	703	DS	PCC	01					00		02	00	00	00			02	00	06	G3
120	704	DS	PCC				09		15		02	00	03	00			02	00	01	G2
120	704	DS	PCC				09		56		02	00	00	00			01	00	01	G2
120	704	DS	PCC	01					00		02	00	03	00			02	00	19	G3

Table B14. Summary Data on Identified Bone by Site, Lake Sharpe Testing Project, South Dakota, WCRM 1987 (Continued). Column headings and data values are explained in Table B13. Data are not available for the West Bend Site (39HU83).

SNO	CNO	RT	CHU	CLASS	ORDER	FAMILY	GENUS	SPECIE	ELEMEN	SYM	COND	BUTCH	MOD	UTE	TPOS	TCLS	FRAC	AGE	COUNT	SIZE
Ghost Lodge Site (Continued)																				
120	705	DS	PCC				09		37		02	00	00	00			02	00	01	G2
120	705	DS	PCC				09		00		02	00	00	00			02	00	02	G2
120	705	DS	PCC	J1					00		02	01	00	00			0102	00	23	G3
120	706	DS	PCC				09		18		02	00	00	00			02	00	01	G3
120	706	DS	PCC	01					00		02	00	00	00			0102	00	08	G3
120	802	DS	EPM	01					00		02	00	00	00			02	00	03	G3
120	803	DS	PCC	01					00		02	00	00	00			02	00	04	G3
120	808	DS	EPM	01					00		02	00	00	00			02	00	01	G3
120	810	DS	UKN		03				23		02	00	03	00			02	00	01	G1
120	810	DS	UKN	01					00		02	00	03	00			02	00	04	G2
120	810	DS	UKN	01					00		02	00	03	00			02	00	17	G3
Cache Site (39ST121)																				
121	106	DS	NC	01					00		02	00	00	00			02	00	01	G3
121	107	DS	NC				13		55	01	03	00	03	00			02	00	01	G1
121	107	DS	NC			11			15	02	02	00	00	00			02	00	01	G2
121	107	DS	NC			? 11			18		02	00	00	00			02	00	01	G3
121	107	DS	NC			11			15		02	00	00	00			02	00	01	G3
121	107	DS	NC	01					00		02	00	00	00			02	00	06	G3
Sitting Buzzard Site (39ST122)																				
122	202	DS	PCC				09		37		03	01	03	00			02	00	01	G1
122	202	DS	PCC				04		44		03	00	00	00			02	00	01	G1
122	202	DS	PCC				09		56		02	00	00	00			04	00	03	G1
122	203	DS	PCC				09		00		02	00	03	00			02	00	01	G1
122	404	DS	UKN				09		11		02	00	00	00			02	00	01	G1
122	404	DS	UKN				09		29		02	01	00	00			02	00	01	G2
122	404	DS	UKN				09		00		02	00	00	00			02	00	01	G2
122	406	DS	LPW				29		10		02	00	00	00			02	00	01	G3
122	503	DS	PCC	02					29		03	00	00	00			02	00	01	G3
122	504	DS	PCC				09		52		01	00	03	00			00	00	01	G2

APPENDIX C

SOIL DESCRIPTIONS FOR SELECTED TEST UNIT PROFILES FROM EIGHT SITES IN THE LAKE SHARPE PROJECT AREA, CENTRAL SOUTH DAKOTA

by

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Western Cultural Resource Management
Boulder, Colorado

April 1990

INTRODUCTION

The soil descriptions that follow for selected test unit profiles at the eight sites under study generally follow the format used by the Soil Conservation Service, U.S. Department of Agriculture (e.g., Soil Survey Staff 1975). Formal soil classification was not attempted in the absence of necessary laboratory data. Soil horizon designations and descriptions generally follow nomenclature presented in Birkeland (1984). All descriptions are based solely on field observations; laboratory analysis of soil samples would likely require the modification of some horizon designations and properties presented here.

All of the sites under study are located along Lake Sharpe (Big Bend Reservoir, Missouri River) in central South Dakota. The climate of this area is characterized as dry subhumid, with a P-E index of 16-31 (Ruhe 1970:38; after Thornwaite 1941). Mean annual precipitation at Pierre, South Dakota, located at the upper end of Lake Sharpe, is 17.9 inches; the mean annual temperature is 46.3° F (Borchers 1980:82). Additional climatic and physiographic information can be found in Section IV of this report.

WEST BEND SITE (39HU83)

Two profiles were described in detail for 39HU83. Test 8, located on the merged floodplain (CT-0) of two intermittent streams, serves as the control for Tests 1-3 and 5-8, all of which were located on the CT-0 and exhibit the same stratigraphic sequence in the absence of substantial disturbance. Test 4, located on the first terrace (CT-1) above the floodplain serves as the control for this part of the site. Both Test 8 and Test 4 exhibit a nearly identical stratigraphic sequence. The only significant difference between them is seen in the mode of parent material deposition: the parent material of Test 8 was deposited as alluvium derived from Pierre Shale bedrock, while the parent material of Test 4 was deposited as colluvium from this same source. This interpretation is supported by the fact that the stratigraphic units in the two tests represent the same chronostratigraphic sequence, as demonstrated by artifact associations, and the alluvium is essentially devoid of gravel inclusions, while the colluvium contains modest amounts (about 10%) of gravel consisting principally of small, rounded pieces of Pierre Shale.

The present surface soil association at 39HU83 is designated as undifferentiated alluvial land (Au) by the U.S. Soil Conservation Service (SCS) (Smalley 1975:Sheet 63). In general terms, these are clayey, well drained soils formed in material derived from weathered (soft) Pierre Shale uplands.

TEST UNIT 8, 39HU83, PROFILE SOIL DESCRIPTION

Physiographic position: creek floodplain (CT-0).
Topography: level surface.
Vegetation: wooded creek bottom with grassy openings.
Drainage: well drained.
Parent material: alluvium; very fine, clayey overbank material.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Clay percentage appears to be increasing downward in the profile. Depths are stated from the southwest corner of the test.

Horizon	Description
A1	0-8 cm. Silty clay loam; very dark gray (10YR3/1) dry and black (10YR2/1) moist; weak, very fine to fine granular structure; 0% estimated gravel; consistence wet slightly sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation.
A2	8-23 cm. Silty clay loam; dark gray (10YR4/1) dry and black (10YR2/1) moist; moderate, fine to medium, subangular blocky primary structure; weak, fine, granular secondary structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; clay films uncertain; clear, smooth boundary; non-effervescent; no visible carbonate accumulation.
Bt	23-31 cm. Silty clay loam; light brownish gray (2.5Y6/2) dry and very dark grayish brown (2.5Y3/2) moist; moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, dry slightly hard; pH 8.0; many, thin clay films on ped faces; non-effervescent; no visible carbonate accumulation.

TEST UNIT 4, 39HU83, PROFILE SOIL DESCRIPTION

Physiographic position: creek terrace (CT-1).
Topography: gently sloping surface near edge of terrace scarp.
Vegetation: wooded with grassy openings.
Drainage: well drained.
Parent material: colluvium; very fine, clayey slopewash material.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Clay percentage appears to be increasing downward in the profile. Depths are stated from the southwest corner of the test.

TEST UNIT 4, 39HU83, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
A1	0-8 cm. Silty clay loam; very dark gray (10YR3/1) dry and black (10YR2/1) moist; weak, very fine to fine granular structure; 10% estimated gravel; consistence wet slightly sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation.
A2	8-23 cm. Silty clay loam; dark gray (10YR4/1) dry and black (10YR2/1) moist; moderate, fine to medium, subangular blocky primary structure; weak, fine, granular secondary structure; 10% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; clay films uncertain; clear, smooth boundary; non-effervescent; no visible carbonate accumulation.
Bt	23-31 cm. Silty clay loam; light brownish gray (2.5Y6/2) dry and very dark grayish brown (2.5Y3/2) moist; moderate, fine to medium, subangular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist friable, dry slightly hard; pH 8.0; many, thin clay films on ped faces; non-effervescent; no visible carbonate accumulation.

ANTELOPE DREAMER SITE (39LM146)

Detailed profile descriptions are provided for all of the nine test units excavated at the Antelope Dreamer site. Tests 1, 2, and 4 were individual 1 X 1 m units; separate descriptions are provided for each. Tests 3 and 9 were combined into a 1 X 2 m excavation into House 15, while Tests 5-8 were combined into a 2 X 2 m excavation into House 11. Combined profile descriptions are provided for each of these larger units. Some of the nomenclature used for the soil horizons in the excavations into the houses is unconventional, necessitated by the need to clearly distinguish cultural from natural stratigraphic units. The subordinate departure "(anth)" is used to identify horizons that are considered to be anthrosols -- soils resulting from or that have been substantially modified by past human activities. The parentheses indicate the unconventional usage of this referent, as well as conveying the sense that the letters are used in combination, rather than separately as indicators of various other soil properties. Some of the profiles at the site exhibit overthickened A horizons formed in loess (silt loam). These horizons are characteristic of cumulative soil profiles (see Birkeland 1984:184-185).

The present surface soil at the site is designated a Lowry-Sully silt loam (LrD) (Schumacher 1987:Sheets 6 and 13). Lowry-Sully silt loams are deep, well drained, strongly sloping to moderately steep soils (9-25% slopes) formed on uplands (Schumacher 1987:23). The Lowry soils are on the less sloping parts of the landscape, while the Sully soils occupy the steeper slopes. The two soils are too intermingled or they occur in areas too small for separate mapping. Lowry-Sully series soils are classified as coarse-silty, mixed (calcareous), mesic Typic Haplustolls (Schumacher 1987:159).

TEST UNIT 1, 39LM146, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; undulating surface with gentle to moderate slopes.
Topography: gently sloping surface of a slight rise in the western area of the site.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over Pierre Shale.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Collectively, the A horizons of Test 1 represent an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). Depths are stated from the southwest corner of the test.

Horizon	Description
A	0-32 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Ak	32-56 cm. Silt loam; grayish brown to light brownish gray (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; weak stage I carbonate.
Abk	56-72 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate; Initial Middle Missouri zone.
Bbk	72-100+ cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; violently effervescent; stage I+ carbonate.

Hand Coring Notes: The Bbk horizon extends to at least 120 cm. From about 120-210 cm the soil is somewhat darker and harder with apparent stage II carbonate development, likely representing a B2bk horizon.

TEST UNIT 2, 39LM146, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; undulating surface with gentle to moderate slopes.
Topography: level surface of a small, flat-topped knoll in the southeastern part of the site.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over Pierre Shale.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: The profile of Test 2 does not exhibit an overthickened A horizon. The stratigraphy in the southeastern area of the site is apparently greatly compressed compared to other areas; that is, the loess cap is much thinner. Depths are stated from the northwest corner of the test.

Horizon	Description
A	0-21 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation; Initial Middle Missouri zone in the lower half of the horizon.
Bk1	21-37 cm. Silt loam; pale brown (10YR6/3) dry and dark yellowish brown (10YR4/4) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage II carbonate accumulation.
Bk2	37-61+ cm. Silt loam; pale brown to brown (10YR5.5/3) dry and brown to dark brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; violently effervescent; stage II carbonate accumulation.

Hand Coring Notes: The Bk2 horizon extends to about 66 cm. What appears to be a tan silty clay loam mottled with gray and rust colors was encountered at this depth, becoming progressively harder and extending to at least 130 cm; it may represent the upper portion of a 2Bbk horizon formed in clayey Pierre Shale residuum.

TEST UNIT 4, 39LM146, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; undulating surface with gentle to moderate slopes.
Topography: gently sloping surface of a small, lowing knoll in the northeastern area of the site.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over Pierre Shale.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Collectively, the A horizons in Test 4 represent an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). Depths are stated from the southwest corner of the test.

Horizon	Description
A	0-38 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Abk	38-51 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; weak stage I carbonate accumulation; Initial Middle Missouri occupation zone possibly at interface of A and Abk horizons.
Bbk	51-61+cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; violently effervescent; stage I carbonate accumulation.

Hand Coring Notes: The Bbk extends to about 140 cm. What appears to be a hard, brown silty clay loam was encountered at this depth; it is possibly a 2Bbk horizon formed in clayey Pierre Shale residuum.

TEST UNITS 3 & 9 (HOUSE 15), 39LM146, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; undulating surface with gentle to moderate slopes.
Topography: gently to moderately sloping ridge face in the eastern part of the site.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over Pierre Shale.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr

TEST UNITS 3 & 9 (HOUSE 15), 39LM146, PROFILE SOIL DESCRIPTION, CONTINUED

Remarks: Tests 3 and 9 do not exhibit an overthickened A horizon. The stratigraphy in the eastern area of the site is greatly compressed compared to other areas; that is, the loess cap is much thinner. Depths are stated from the southwest corner of Test 9. Tests 3 and 9 comprise a 1 X 2 m excavation into the remains of an Initial Middle Missouri earthlodge designated House 15. The "(anth)" subordinate departure is used to identify anthrosols formed by the burning and collapse of this structure. Human disturbance of the natural soil profile by the construction and subsequent destruction of House 15 has produced a decidedly atypical horizon sequence.

Horizon	Description
A	0-25 cm. Silt loam; dark grayish brown (10YR4/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; non-effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 15.
Bk1(anth)	25-44 cm. Silt loam; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; clear, smooth to wavy boundary; violently effervescent; stage I carbonate accumulation; outer rooffall of House 15.
Ak1(anth)	44-66 cm. Silt loam; grayish brown to dark grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth to wavy boundary with breaks; violently effervescent; stage I carbonate accumulation; light to moderate burning; inner rooffall (1) of House 15.
Ak2(anth)	66-73 cm. Silt loam; dark grayish brown (10YR4/2) dry and black to very dark brown (10YR2/1.5) moist; massive primary structure; weak, coarse to very coarse, granular secondary structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist loose to very friable, and dry loose to soft; pH 8.0; no clay films; abrupt, smooth boundary with breaks; violently effervescent; stage I carbonate accumulation; heavy burning; inner rooffall (2) to floor of House 15.
Bk2	46-76 cm. Silt loam; pale brown (10YR6/3) dry and brown to dark brown (10YR4/3) moist; weak, medium to coarse, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; abrupt, smooth boundary with breaks; violently effervescent; stage II carbonate accumulation; natural horizon forming the east wall of House 15.

TEST UNITS 3 & 9 (HOUSE 15), 39LM146, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
2Coxb	73-76+ cm. Clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable to firm, and dry slightly hard to hard; pH 8.0; clay films uncertain; violently effervescent; stage I carbonate accumulation; many small fragments of heavily weathered Pierre Shale (sand-sized, angular pieces of clay); natural horizon forming the floor and subfloor of House 15.

TEST UNITS 5-8 (HOUSE 11), 39LM146, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; undulating surface with gentle to moderate slopes.
Topography: moderately sloping ridge face in the western part of the site.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over Pierre Shale.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Collectively, the A1 and A2 horizons in Tests 5-8 represent an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). Depths are stated from the southwest corner of Test 5. Tests 5-8 comprise a 2 X 2 m excavation into the remains of an Initial Middle Missouri earthlodge designated House 11. The "(anth)" subordinate departure is used to identify anthrosols formed by the burning and collapse of this structure. Human disturbance of the natural soil profile by the construction and subsequent destruction of House 11 has produced a decidedly atypical horizon sequence.

Horizon	Description
A1	0-25 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; non-effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 11.
A2	25-47 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 11.

TEST UNITS 5-8 (HOUSE 11), 39LM146, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
Bk1(anth)	47-90 cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate accumulation; outer rooffall of House 11.
Ak1(anth)	90-100 cm. Silt loam; grayish brown (10YR5/2) dry and dark brown (10YR3/3) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage II carbonate accumulation; light to moderate burning; inner rooffall (1) of House 11.
Ak2(anth)	100-115 cm. Silt loam; very dark grayish brown (10YR3/2) dry and black (10YR2/1) moist; massive primary structure; weak, coarse to very coarse, granular secondary structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist loose to very friable, and dry loose to soft; pH 8.0; no clay films; abrupt, smooth boundary; violently effervescent; stage I carbonate accumulation; heavy burning; inner rooffall (2) to floor of House 11.
Bk2	115+ cm. Silt loam; pale brown (10YR6/3) dry and brown to dark brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry hard; pH 8.0; no clay films; violently effervescent; stage II carbonate accumulation; natural horizon forming the floor and subfloor of House 11.

Hand Coring Notes: The Bk2 extends to about 175 cm. What appears to be a silty clay loam that may be a 2Bbk formed in Pierre Shale residuum was encountered at this depth.

WINDY MOUNDS SITE (39LM149)

Detailed profile descriptions are provided for Tests 2 and 3. The stratigraphy recorded in Test 2 is identical to that in Test 1, so the Test 2 description also applies to Test 1. Tests 1 and 2 were placed at the outer margins of prehistoric man-made mounds (Mounds 1 and 2, respectively). The subordinate departure "(anth)" is used to identify anthrosols (anthropic soil horizons) that were formed as a result of mound construction. Test 3 was placed approximately 20 m to the northwest of the mounds in order to provide a natural stratigraphic profile for purposes of comparison with the mound profiles.

The present surface soil at the site is designated as a Schamber loam (ShE) (Schumacher 1987:Sheet 13). Schamber loams are excessively drained, moderately sloping to steep soils (6-40% slopes) on ridges, knolls, and terrace escarpments. These soils are very shallow and overlie gravelly material. Small areas of Lowry, Orton, Sansarc, and Sully soils are sometimes included in the Schamber mapping units (Schumacher 1987:43). The Schamber series soils are classified as sandy-skeletal, mixed, mesic Ustic Torriorthents (Schumacher 1987:159).

TEST UNIT 2, 39LM149, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; flat to slightly undulating surface with gentle slopes.
Topography: outer margin of Mound 2; moderate slope.
Vegetation: short grass prairie; prickly pear cactus and yucca.
Drainage: excessively drained.
Parent material: loess over glaciofluvial gravels.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Test 2 was excavated into the outer margin of Mound 2, a prehistoric man-made mound. Depths are stated from the southeast corner of the test.

Horizon	Description
A1(anth)	0-9 cm. Silt loam; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 25% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly to violently effervescent; no visible carbonate accumulation. Surface A horizon formed on mound fill.
A2(anth)	9-37 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 25% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly to violently effervescent; no visible carbonate accumulation. Mound fill.
Abk	37-47 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 10% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry soft; pH 8.0; no clay films; abrupt, smooth boundary; violently effervescent; stage I carbonate accumulation. Submound horizon. Correlates with the A horizon in Test 3.
Bbk	47-87 cm. Silt loam; pale brown (10YR6/3) dry and brown to dark brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage II carbonate accumulation. Correlates with the Bk horizon in Test 3.

TEST UNIT 2, 39LM149, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
2Coxb	87+ cm. Loam; yellowish brown (10YR5/4) dry and dark yellowish brown (10YR4/4) moist; massive structure; >75% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry loose to soft; pH 8.0; no clay films; strongly to violently effervescent; no visible carbonate accumulation; rust colored stains on gravel. Same as the 2Cox horizon in Test 3.

TEST UNIT 3, 39LM149, PROFILE SOIL DESCRIPTION

Physiographic position: high hill or ridge in the Missouri Breaks zone; flat to slightly undulating surface with gentle slopes.
Topography: flat ridge-top area beyond mounds.
Vegetation: short grass prairie; prickly pear cactus and yucca.
Drainage: excessively drained.
Parent material: loess over glaciofluvial gravels.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Test 3 was excavated into a flat portion of the ridge surface approximately 20 m to the northwest of the mounds. Depths are stated from the southwest corner of the test.

Horizon	Description
A	0-15 cm. Silt loam; grayish brown (10YR5/2) dry and very dark to dark grayish brown (10YR3.5/2) moist; weak, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; non-effervescent to weakly effervescent; no visible carbonate accumulation. Correlates with the Abk horizon (submound horizon) in Test 2.
Bk	15-37 cm. Silt loam; light brownish gray (10YR6/2) dry and brown to dark brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage II carbonate accumulation. Correlates with the Bbk horizon in Test 2.
2Cox	87+ cm. Loam; yellowish brown (10YR5/4) dry and dark yellowish brown (10YR4/4) moist; massive structure; >75% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry loose to soft; pH 8.0; no clay films; strongly to violently effervescent; no visible carbonate accumulation; rust colored stains on gravel Same as the 2Coxb horizon in Test 2.

BETTY BITE OFF SITE (39LM156)

Detailed profile descriptions are provided for Bank Profile 1 and Tests 1 and 2, which were combined into a 1 X 2 m excavation. The Tests 1-2 profile exhibits the same stratigraphy as Test 3, so the descriptions for Tests 1-2 are also generally applicable to Test 3. The upper portion of the loess depositional unit that covers the site consists of a general overthickened or cumulative horizon as much as one meter thick. Overthickened A horizons are indicative of cumulative soil profiles (see Birkeland 1984:184-185).

The present surface soil at the site is designated a Lowry-Sully silt loam (LrD) (Schumacher 1987:Sheet 12). Lowry-Sully silt loams are deep, well drained, strongly sloping to moderately steep soils (9-25% slopes) formed on uplands (Schumacher 1987:23). In this case, the Lowry-Sully association is mapped along the MT-2 terrace scarp (slope) bordering Lake Sharpe. The Lowry soils are on the less sloping parts of the landscape, while the Sully soils occupy the steeper slopes. The two soils are too intermingled or they occur in areas too small for separate mapping. Lowry-Sully series soils are classified as coarse-silty, mixed (calcareous), mesic Typic Haplustolls (Schumacher 1987:159).

BANK PROFILE 1, 39LM156, PROFILE SOIL DESCRIPTION

Physiographic position: MT-2 terrace scarp (slope).
Topography: cutbank of Lake Sharpe; truncated MT-2 terrace scarp.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over alluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom
Remarks: Collectively, the A horizons of Bank Profile 1 represent an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). The profile extends from the surface of the cutbank to the Lake Sharpe beach area. The basal unit of the profile was partially covered by slump. Depths are stated from the southwest corner of the profile.

Horizon	Description
A1	0-37 cm. Silt loam; grayish brown to light brownish gray (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation.
A2	37-81 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry soft; pH 8.0; no clay films; abrupt, smooth boundary; strongly effervescent; no visible carbonate accumulation.

BANK PROFILE 1, 39LM156, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
A1bk	81-90 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; strongly effervescent; stage I carbonate accumulation. Early ceramic cultural association; scattered charcoal flecks and bone.
A2bk	90-95 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; very strongly effervescent; stage I carbonate accumulation.
A3bk	95-104 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate accumulation.
Bbk	104-142 cm. Silt loam; light brownish gray (10YR6/2) dry and brown to dark brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, wavy boundary; violently effervescent; stage I carbonate accumulation.
2Bbk	142-180 cm. Silty clay loam; pale brown (10YR6/3) dry and brown (10YR4.5/3) moist; moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage II carbonate accumulation; very fine alluvium, overbank deposit with horizontal bedding ghosts.
2Coxb	180-190 cm. Silty clay loam; olive (5Y5/4) dry and olive (5Y4/3) moist; moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage II carbonate accumulation; very fine alluvium, overbank deposit with clear horizontal bedding.
3Coxb	190-208 cm. Sandy loam; olive to pale olive (5Y5.5/3) dry and olive (5Y4/3) moist; massive structure; 0% estimated gravel; consistence wet nonsticky and nonplastic, moist very friable, and dry soft; pH 8.0; no clay films; gradual, wavy boundary; strongly effervescent; no visible carbonate accumulation; fine alluvium, channel deposit.

BANK PROFILE 1, 39LM156, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
4Coxb	208-240+ cm. Sandy loam; dark red (2.5YR3/6) dry and dark reddish brown (2.5YR3/4) moist; massive structure; 75% estimated gravel; consistence wet nonsticky and nonplastic, moist very friable, and dry soft; pH 8.0; no clay films; effervescent; no visible carbonate accumulation; coarse alluvium (pebble to boulder size gravel), channel deposit.

TESTS 1-2, 39LM156, PROFILE SOIL DESCRIPTION

Physiographic position: MT-2 terrace slope.
Topography: gently sloping surface near the Lake Sharpe cutbank.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over alluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom
Remarks: Collectively, the A horizons of Tests 1-2 represent an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). Depths are stated from the southwest corner of Test 1. Tests 1-2 were placed in the terrace surface opposite Bank Profile 1.

Horizon	Description
A1	0-38 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation.
A2	38-83 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry soft; pH 8.0; no clay films; abrupt, smooth boundary; strongly effervescent; no visible carbonate accumulation. Late ceramic cultural association near horizon surface.
Abk	83-107 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; very strongly effervescent; weak stage I carbonate accumulation. Early ceramic cultural association; scattered charcoal flecks and bone.

TESTS 1-2, 39LM156, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
Bbk	107-130+ cm. Silt loam; light brownish gray (10YR6/2) dry and grayish brown to dark grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; violently effervescent; stage I carbonate accumulation.

BUZZING YUCCA SITE (39LM166)

Detailed soil descriptions are provided for the profiles of extramural Tests 4 and 8, intramural Tests 1-2 (House 5), and intramural Test 6 (House 6). The soil horizons described for Tests 4 and 8 are generally applicable to certain horizons recorded in the other extramural test units at the site for which detailed descriptive information was not recorded. Test 3 is an exception to this statement. It exhibits a somewhat anomalous soil profile that is attributed to substantial disturbance by past tree growth. The subordinate departure "(anth)" is used to identify anthropic horizons resulting from the construction of earthlodges at the site. Anthropic horizons are discussed further under the Antelope Dreamer site.

The present surface soil at the site is mapped as a Sansarc-Rock outcrop complex (ScE) (Schumacher 1987:Sheet 11). The Sansarc-Rock outcrop complex occurs as areas of shallow, well drained, strongly sloping to steep (9-40% slopes) Sansarc clay intermingled with areas of Rock outcrop (Pierre Shale bedrock). The complex is found in upland settings that are generally dissected by narrow drainageways (Schumacher 1987:40-41). In this case, the complex is mapped along low-lying Missouri Breaks terrain adjacent to Lake Sharpe. Small areas of Bullcreek, Chantier, and Opal soils are often included with the Sansarc-Rock outcrop complex during mapping. Sansarc series soils are classified as clayey, montmorillonitic (calcareous), mesic, shallow Typic Ustorthents (Schumacher 1987:159).

The area to the southeast of the site is mapped as Sansarc-Opal clays (SbE). The Opal clays are moderately deep soils that occupy somewhat flatter terrain than the Sansarc clays (Schumacher 1987:40). This association is relevant here because the stratigraphy recorded in Tests 6 and 8 indicates that the deeper Opal clays are present in the areas surrounding these tests in the southeastern part of the site. Opal series soils are classified as very fine, montmorillonitic, mesic Udic Chromusterts (Schumacher 1987:159).

TEST UNIT 4, 39LM166, PROFILE SOIL DESCRIPTION

Physiographic position: low hill or ridge in the Missouri Breaks zone.
Topography: slightly undulating surface.
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by D. L. Toom and A. C. Kerr
Remarks: Shallow Sansarc soil. Depths are stated from the southeast corner of the test.

Horizon	Description
A	0-9 cm. Clay; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 7.5; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; common Pierre Shale fragments.
AC	9-19 cm. Clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; weak, medium, subangular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; common Pierre Shale fragments.
Cox	19-31 cm. Clay; grayish brown (2.5Y5/2) dry and dark grayish brown (2.5Y4/2) moist; weak, medium to coarse, subangular blocky structure; 25% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; slightly effervescent; widely scattered carbonate nodules; many Pierre Shale fragments.
Cr	31-40+ cm. Weathered fragments of consolidated Pierre Shale; light gray-gray (5Y6/1) dry and dark gray (5Y4/1) moist; massive structure; digs easily.

TEST UNIT 8, 39LM166, PROFILE SOIL DESCRIPTION

Physiographic position: narrow bench in the Missouri Breaks zone graded to the level of the MT-2 terrace.
Topography: small, flattopped knoll adjacent to the Lake Sharpe shoreline.
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by D. L. Toom and A. C. Kerr
Remarks: Moderately deep Opal soil. Depths are stated from the northeast corner of the test.

TEST UNIT 8, 39LM166, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
A	0-10 cm. Clay; dark grayish brown (10YR4/2) dry and very dark grayish brown (10YR3/2) moist; moderate, fine to medium, subangular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 7.5; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation.
Bw	10-23 cm. Clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate, fine to medium, subangular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Bk	23-33+ cm. Clay; gray (10YR5/1) dry and dark gray (10YR4/1) moist; moderate, medium to coarse, angular blocky structure; 10% estimated gravel; consistence wet sticky and very plastic, moist very firm, and dry very hard; pH 8.0; no clay films; strongly effervescent; scattered large carbonate nodules (stage II accumulation); yellowish brown mottles (10YR5/4).

TEST UNITS 1-2 (HOUSE 5), 39LM166, PROFILE SOIL DESCRIPTION

Physiographic position: narrow bench in the Missouri Breaks zone graded to the level of the MT-2 terrace.
Topography: small, flattopped knoll adjacent to the Lake Sharpe shoreline.
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: very thin loess over clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by D. L. Toom and P. R. Picha
Remarks: Shallow Sansarc soil disturbed by the construction of House 5. Tests 1-2 comprise a 1 X 2 m excavation into the center of the remains of an Extended Coalescent earthlodge designated House 5. The "(anth)" subordinate departure is used to identify anthrosols formed by the collapse of the structure. The house was not destroyed by fire, although minor burning is apparent in places in the inner rooffall. F100 is the central hearth of the house. Depths are stated from the northwest corner of Test 1.

Horizon	Description
A	0-4 cm. Silt loam; dark grayish brown (10YR4/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly; pH 7.5; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; natural eolian horizon over House 5.

TEST UNITS 1-2 (HOUSE 5), 39LM166, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
2A1	4-17 cm. Clay; grayish brown to dark grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; weak, medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 7.5; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; either a natural horizon over House 5 or the actual beginning of the rooffall zone.
2A2(anth)	17-22 cm. Clay; grayish brown to dark grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; moderate, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation; outer rooffall of House 5.
2Ak(anth)	22-37 cm. Clay; dark grayish brown (10YR4/2) dry and very dark brown (10YR2/2) moist; moderate, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate (some scattered nodules); scattered light burning and charcoal; inner rooffall of House 5.
F100	35-50 cm. Fine ashy fill; light olive gray to olive gray (5Y5.5/2) dry and olive gray to dark olive gray (5Y3.5/2) moist; abrupt, smooth boundary; subfloor hearth in House 5.
2Cox	37+ cm. Clay loam; brown to dark brown (10YR4/3) dry and very dark grayish brown (10YR3/2) moist; weak, fine, subangular blocky structure; 50-75% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; violently effervescent; no visible carbonate accumulation; many Pierre Shale fragments; floor and base of hearth in House 5.

TEST UNIT 6 (HOUSE 6), 39LM166, PROFILE SOIL DESCRIPTION

Physiographic position: narrow bench in the Missouri Breaks zone graded to the level of the MT-2 terrace.
Topography: small, flattopped knoll adjacent to the Lake Sharpe shoreline.
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by D. L. Toom and P. R. Picha

TEST UNIT 6 (HOUSE 6), 39LM166, PROFILE SOIL DESCRIPTION, CONTINUED

Remarks: Moderately deep Opal soil disturbed by the construction of House 6. Test 6 is a 1 X 1 m excavation into the center of the remains of an Extended Coalescent earthlodge designated House 6. The "(anth)" subordinate departure is used to identify anthrosols formed by the collapse of the structure. The house was not destroyed by fire, although minor burning is apparent in places in the inner rooffall. F101 is the central hearth of the house. Depths are stated from the northwest corner of the test.

Horizon	Description
A1	0-20 cm. Clay; dark grayish brown (10YR4/2) dry and very dark grayish brown (10YR3/2) moist; weak, medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; either a natural horizon over House 6 or the actual beginning of the rooffall zone.
A2(anth)	20-31 cm. Clay; dark grayish brown (10YR4/2) dry and very dark grayish brown (10YR3/2) moist; moderate, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; outer rooffall of House 6.
Ak(anth)	31-39 cm. Clay; grayish brown to dark grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; moderate, fine to medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; stage I carbonate (some scattered nodules); scattered light burning and charcoal; inner rooffall of House 6.
F101	39-62 cm. Fine ashy fill; pale olive (5Y6/3) dry and olive (5Y4/3) moist; abrupt, smooth boundary; subfloor hearth in House 6.
Bk	39-45+ cm. Clay; gray (10YR5/1) dry and dark gray (10YR4/1) moist; moderate, medium, subangular blocky structure; <10% estimated gravel; consistence wet sticky and very plastic, moist very firm, and dry very hard; pH 8.0; no clay films; effervescent; scattered carbonate nodules; yellow mottles (10YR7/6); floor and base of hearth in House 6.

GHOST LODGE SITE (39ST120)

Detailed soil descriptions are provided for the profiles of extramural Tests 2 and 8 and intramural Tests 3-6. Test 2 serves as the control for the natural stratigraphy recorded in the extramural tests in the eastern bench, including Tests 1 and 7 for which detailed horizon descriptions are not provided. Test 8 was placed in the western part of the site and is used to characterize the stratigraphy of the western bench. Tests 3-6 were combined into a 1 X 4 m excavation into House 2, the remains of an earthlodge. A combined profile description is provided for this larger unit. Some variability is present among the profiles of the extramural tests in the eastern part of the site (Tests 1, 2, and 7). This is the result of localized depositional events on the eastern bench. Textural designations for the various horizons recorded in these test units are the best indicator for correlating dissimilar horizon sequences in the eastern site area. The subordinate departure "(anth)" is used to identify anthropic horizons (anthrosols) that are the product of earthlodge construction at the site. The loess (silt loam) capping the site contains both surface and buried overthickened A horizons characteristic of a cumulative soil profile (see Birkeland 1984:184-185). Both cumulative and anthropic horizons are discussed in greater detail in the Antelope Dreamer site report.

The present surface soil at the site is mapped as Sully-Sansarc complex (SvE) (Borchers 1980:Sheet 58). The Sully-Sansarc complex consists of both deep and shallow, well drained, and strongly sloping to moderately steep (9-25% slopes) soils formed on uplands (Borchers 1980:41-42). In this case, the complex is mapped along low-lying Missouri Breaks terrain adjacent to Lake Sharpe. The Sully soil is a deep silt loam occupying narrow ridges and downslope areas. The Sansarc soil is a shallow clay located along drainageways. The Sully silt loam is of primary relevance to the archeology of the site because it covers both the eastern and western benches and contains all of the cultural deposits identified at the site. The Sansarc clay (or some related soil) is buried beneath the Sully silt loam in the benches; it is believed to have no archeological potential at this location. Sully series soils are classified as coarse-silty, mixed (calcareous), mesic Typic Ustorthents. Sansarc series soils are classified as clayey, montmorillonitic (calcareous), mesic, shallow Typic Ustorthents (Borchers 1980:135).

TEST UNIT 2, 39ST120, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: gently sloping surface of the eastern bench above an intermittent stream channel.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr.

TEST UNIT 2, 39ST120, PROFILE SOIL DESCRIPTION, CONTINUED

Remarks: Collectively, the A horizons of Test 2 are an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). The cumulative soil profile has developed in what is principally an eolian (loess) depositional unit (Sully silt loam). Depths are stated from the southwest corner of the test.

Horizon	Description
A1	0-16 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; weakly effervescent; no visible carbonate accumulation.
A2	16-37 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation.
2A	37-49 cm. Silty clay loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak to moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation; mixed loess and clayey colluvium; mottled with faint banding.
3A	49-74 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; effervescent; no visible carbonate accumulation.
4Bbk	74-80+ cm. Clay; gray (10YR5/1) dry and dark gray (10YR4/1) moist; moderate to strong, medium, angular blocky structure; 0% estimated gravel; consistence wet sticky and very plastic, moist very firm, and dry very hard; pH 8.0; few, thin clay films on ped faces; violently effervescent; stage II carbonate accumulation; few small Pierre Shale fragments.

TEST UNIT 8, 39ST120, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: moderately sloping surface of the western bench above an intermittent stream channel.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and P. R. Picha
Remarks: The upper 100 cm of Test 8 consists of a cumulative soil profile containing overthickened A horizons (see Birkeland 1984:184-185). The cumulative soil profile has developed in what is principally an eolian (loess) depositional unit (Sully silt loam). Depths are stated from the southeast corner of the test.

Horizon	Description
A1	0-22 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
A2	22-58 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Bk	58-66 cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown to grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; violently effervescent; weak stage I carbonate accumulation.
Abk	66-101 cm. Silt loam; dark grayish brown to grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I+ carbonate accumulation; alternating dark and light bands.
2Bbk	101+ cm. Clay to silty clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate to strong, medium, angular blocky structure; <10% estimated gravel; consistence wet very sticky and plastic, moist firm, and dry hard; pH 8.0; few, thin clay films on ped faces; violently effervescent; stage II carbonate accumulation; few small Pierre Shale fragments.

TEST UNITS 3-6 (HOUSE 2), 39ST120, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: gently sloping surface of the eastern bench above an intermittent stream channel.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and P. R. Picha
Remarks: Tests 3-6 comprise a 1 X 4 m excavation into the remains of a small earthlodge designated House 2. The "(anth)" subordinate departure is used to identify anthrosols formed by the collapse of this structure. Human disturbance of the natural soil profile by the construction and subsequent collapse of House 2 has produced a decidedly atypical horizon sequence.

Horizon	Description
A	0-11 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown to dark grayish brown (10YR3.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; non-effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 2.
AB	11-25 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; weakly effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 2.
Bw1	25-43 cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation; natural horizon overlying the remains of House 2.
Bw2(anth)	43-57 cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; weakly effervescent; no visible carbonate accumulation; outer rooffall of House 2; contains isolated lenses of sandy loam in Test 4.

TEST UNITS 3-6 (HOUSE 2), 39ST120, PROFILE SOIL DESCRIPTION

Horizon	Description
A(anth)	57-65 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown to dark grayish brown (10YR3.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; abrupt, smooth boundary; effervescent; no visible carbonate accumulation; slight burning and scattered charcoal flecks; inner rooffall to floor of House 2.
2Bbk	65+ cm. Clay to silty clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate to strong, medium, angular blocky structure; 0% estimated gravel; consistence wet very sticky and plastic, moist very firm, and dry very hard; pH 8.0; no clay films; strongly effervescent; stage II carbonate accumulation; few small Pierre Shale fragments; natural horizon forming the floor and subfloor of House 2.

CACHE SITE (39ST121)

Detailed soil descriptions are provided for the profiles of Tests 1 and 2. Both are extramural test units. While the horizon sequence nomenclature is the same for both profiles, different parent materials are involved and the upper stratigraphy recorded in each is actually quite different on a textural basis.

The present surface soil at the site is mapped as borderline Sully-Sansarc complex (SvE) and Sansarc-Rock outcrop complex (Sd) (Borchers 1980:Sheet 57). The Sansarc-Rock outcrop complex is discussed under the Buzzing Yucca site. The Sully-Sansarc complex seems to be the most relevant to the stratigraphy recorded at the site, and it is considered here. The Sully-Sansarc complex consists of both deep and shallow, well drained, and strongly sloping to moderately steep (9-25% slopes) soils formed on uplands (Borchers 1980:41-42). In this case, the complex is mapped along low-lying Missouri Breaks terrain adjacent to Lake Sharpe. The Sully soil is a deep silt loam occupying narrow ridges and downslope areas. The Sansarc soil is a shallow clay located along drainageways. The two soils are too intermingled to make separate mapping practical. Small areas of deep, clayey Swanboy and Wendte soils in drainageways are often included in the Sully-Sansarc map units. Sully series soils are classified as coarse-silty, mixed (calcareous), mesic Typic Ustorthents. Sansarc series soils are classified as clayey, montmorillonitic (calcareous), mesic, shallow Typic Ustorthents (Borchers 1980:135).

TEST UNIT 1, 39ST121, PROFILE SOIL DESCRIPTION

Physiographic position: lower slopes of the Missouri Breaks zone adjacent to Lake Sharpe.
Topography: small, flattopped knoll in a narrow drainageway.
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: loess over clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Sully soil association to a depth of about 60 cm. Depths are stated from the northwest corner of the test.

Horizon	Description
A	0-18 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; non-effervescent; no visible carbonate accumulation.
Bw	18-56 cm. Silt loam; light brownish gray (10YR6/2) dry and grayish brown to dark grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; strongly effervescent; no visible carbonate accumulation.
2Bbk	57-70+ cm. Clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate, medium to coarse, subangular blocky to angular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; strongly effervescent; stage I+ carbonate accumulation; common small Pierre Shale fragments.

TEST UNIT 2, 39ST121, PROFILE SOIL DESCRIPTION

Physiographic position: lower slopes of the Missouri Breaks zone adjacent to Lake Sharpe.
Topography: low-lying flat formed in a narrow drainageway (colluvium-filled channel).
Vegetation: mixed grass prairie; cactus and yucca.
Drainage: well drained.
Parent material: clayey colluvium over clayey residuum (Pierre Shale).
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Sansarc soil association? Depths are stated from the northeast corner of the test.

TEST UNIT 2, 39ST121, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
A	0-10 cm. Silty clay loam; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; abrupt, smooth boundary; non-effervescent; no visible carbonate accumulation; few small Pierre Shale fragments.
Bw	10-16 cm. Silty clay loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; moderate, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet sticky and plastic, moist friable, and dry slightly hard to hard; pH 8.0; no clay films; clear, wavy boundary; effervescent; no visible carbonate accumulation; few small Pierre Shale fragments.
2Bbk	16-40+ cm. Clay; dark grayish brown to grayish brown (10YR4.5/2) dry and very dark grayish brown (10YR3/2) moist; moderate, medium to coarse, angular blocky structure; 10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; no clay films; strongly effervescent; stage I+ carbonate accumulation; common small Pierre Shale fragments.

SITTING BUZZARD SITE (39ST122)

Detailed soil descriptions are provided for the profiles of Tests 1, 2, and 3 and Bank Profile 1. Test 1 was excavated into Feature 1, which proved to be natural depression rather than the remains of an earthlodge. Test 2 serves as the control for the test units placed beyond the knoll area (i.e., Tests 2, 5, and 6). Bank Profile 1 and Test 3 are representative of the stratigraphy observed in the western cutbank of the stream/bench, as well as that encountered in test units placed in the knoll (i.e., Tests 3 and 4). The silt loam capping the site contains both surface and buried overthickened A horizons characteristic of a cumulative soil profile (see Birkeland 1984:184-185).

The present surface soil at the site is mapped as Sully-Sansarc complex (SvE) (Borchers 1980:Sheet 58). The Sully-Sansarc complex consists of both deep and shallow, well drained, and strongly sloping to moderately steep (9-25% slopes) soils formed on uplands (Borchers 1980:41-42). In this case, the complex is mapped along low-lying Missouri Breaks terrain adjacent to Lake Sharpe. The Sully soil is a deep silt loam occupying narrow ridges and downslope areas. The Sansarc soil is a shallow clay located along drainageways. The Sully silt loam is of primary relevance to the archeology of the site because it covers the site area (the stream bench) and contains all of the cultural deposits identified at the site. The Sansarc clay (or

some related soil) is buried beneath the Sully silt loam in the bench; it is believed to have no archeological potential at this location. Sully series soils are classified as coarse-silty, mixed (calcareous), mesic Typic Ustorthents. Sansarc series soils are classified as clayey, montmorillonitic (calcareous), mesic, shallow Typic Ustorthents (Borchers 1980:135).

TEST UNIT 1 (FEATURE 1), 39ST122, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: small depression in the surface a narrow, low-lying bench on the west side of an intermittent stream channel.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr
Remarks: Test 1 was placed in a depression initially believed to be the remains of an earthlodge. A combination of excavation and hand coring indicates that the depression is actually a natural feature formed by subsurface erosion (tunnel gullying) in an old drainageway that is filled with clayey colluvium. Depths are stated from the southeast corner of the test. The profile was moist to wet when described.

Horizon	Description
A	0-7 cm. Silt loam; very dark grayish brown (10YR3/2) moist; structure not apparent due to moisture; 0% estimated gravel; slightly sticky and slightly plastic; abrupt, smooth boundary; loess parent material.
2A	7-25 cm. Silty clay loam; very dark gray (10YR3/1) wet; structure not apparent due to moisture; 0% estimated gravel; sticky and plastic; clear, smooth boundary; many thin laminar bands apparent, primarily colluvial deposition; mixed loess and clayey colluvium parent material.
3B	25-31+ cm. Silty clay loam to clay; very dark grayish brown (10YR3/2) wet; structure not apparent due to moisture; 0% estimated gravel; very sticky and plastic; clayey colluvium.

Hand Coring Notes: The 3B horizon appears to extend to at least 150 cm. Below a depth of about 50 cm the 3B is completely water saturated and contains occasional voids or soft spots resulting from subsurface erosion. No evidence of artifactual remains was observed in numerous probes into the depression to a depth of 150 cm.

TEST UNIT 2, 39ST122, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: small, low-lying flat on the northwest slope of the western bench above an intermittent stream channel; Lake Sharpe is short distance to the north.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr.
Remarks: Collectively, the A horizons of Test 2 are an overthickened A of a cumulative soil profile (see Birkeland 1984:184-185). The cumulative soil profile has developed in what is principally an eolian (loess) depositional unit (Sully silt loam). Depths are stated from the southwest corner of the test.

Horizon	Description
A1	0-17 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
A2	17-39 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Bw	39-57 cm. Silt loam; light brownish gray (10YR6/2) dry and grayish brown to dark grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; strongly effervescent; no visible carbonate accumulation.
2Bbk	57-60+ cm. Clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate to strong, medium to coarse, subangular blocky to angular blocky structure; <10% estimated gravel; consistence wet sticky and plastic, moist firm, and dry hard; pH 8.0; very few, thin clay films on ped faces; strongly effervescent; stage II carbonate accumulation; few small Pierre Shale fragments.

BANK PROFILE 1, 39ST122, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: profile of the western stream/bench cutbank next to a small, narrow, flattopped knoll on the bench.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom, A. C. Kerr, and P. R. Picha
Remarks: The upper 155 cm of Test 8 consists of a cumulative soil profile containing an overthickened Abk horizon (see Birkeland 1984:184-185). The cumulative soil profile has developed in what is principally an eolian (loess) depositional unit (Sully silt loam). Depths are stated from the northwest corner of the profile.

Horizon	Description
A	0-22 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; effervescent; no visible carbonate accumulation.
Bw	22-43 cm. Silt loam; light brownish gray (10YR6/2) dry and grayish brown to dark grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
A1bk	43-83 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate accumulation.
A2bk	83-101 cm. Silt loam; light grayish brown to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate accumulation.
A3bk	101-110 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I+ carbonate accumulation.

BANK PROFILE 1, 39ST122, PROFILE SOIL DESCRIPTION, CONTINUED

Horizon	Description
Bbk	110-155 cm. Silt loam; pale brown (10YR6/3) dry and dark brown to brown (10YR4/3) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage I carbonate accumulation.
2Bbk	155-185+ cm. Clay to silty clay; grayish brown (10YR5/2) dry and dark grayish brown (10YR4/2) moist; moderate to strong, medium to coarse, subangular blocky to angular blocky structure; <10% estimated gravel; consistence wet very sticky and plastic, moist firm, and dry hard; pH 8.0; very few, thin clay films on ped faces; strongly effervescent; stage II carbonate accumulation; few small Pierre Shale fragments.

TEST UNIT 3, 39ST122, PROFILE SOIL DESCRIPTION

Physiographic position: low-lying Missouri Breaks terrain adjacent to Lake Sharpe.
Topography: small, narrow, flattopped knoll on the surface of the bench adjacent to the western stream/bench cutbank.
Vegetation: mixed grass prairie.
Drainage: well drained.
Parent material: loess over clayey colluvium.
Bedrock: Pierre Shale.
Sampled by: D. L. Toom and A. C. Kerr.
Remarks: The upper 120 cm of Test 8 consists of a cumulative soil profile containing an overthickened Abk horizon (see Birkeland 1984:184-185). The cumulative soil profile has developed in an eolian (loess) depositional unit (Sully silt loam). Depths are stated from the northwest corner of the test.

Horizon	Description
A	0-25 cm. Silt loam; light brownish gray to grayish brown (10YR5.5/2) dry and dark grayish brown (10YR4/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist very friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; strongly effervescent; no visible carbonate accumulation.
Bw	25-50 cm. Silt loam; light brownish gray (10YR6/2) dry and grayish brown to dark grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; no visible carbonate accumulation.

TEST UNIT 3, 39ST122, PROFILE SOIL DESCRIPTION

Horizon	Description
Abk	50-88 cm. Silt loam; grayish brown (10YR5/2) dry and very dark grayish brown (10YR3/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; clear, smooth boundary; violently effervescent; stage I carbonate accumulation.
Bbk	88-103+ cm. Silt loam; light brownish gray (10YR6/2) dry and dark grayish brown to grayish brown (10YR4.5/2) moist; weak, fine to medium, subangular blocky structure; 0% estimated gravel; consistence wet slightly sticky and slightly plastic, moist friable, and dry slightly hard; pH 8.0; no clay films; gradual, wavy boundary; violently effervescent; stage I carbonate accumulation.

Hand Coring Notes: The Bbk extends to a depth of about 120 cm where a clayey 2Bbk horizon was encountered.

APPENDIX D

EXCAVATION UNIT PROVENIENCE CODE AND SITE PROVENIENCE DATA

Table D1. Excavation Unit Provenience Code, All Sites, Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D2. Provenience Data for Test Excavations at the West Bend Site (39HU83), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D4. Provenience Data for Test Excavations at the Windy Mounds Site (39LM149), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D5. Provenience Data for Test Excavations at the Betty Bite Off Site (39LM156), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D6. Provenience Data for Test Excavations at the Buzzing Yucca Site (39LM166), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D7. Provenience Data for Test Excavations at the Ghost Lodge Site (39ST120), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D8. Provenience Data for Test Excavations at the Cache Site (39ST121), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D9. Provenience Data for Test Excavations at the Sitting Buzzard Site (39ST122), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table D1. Excavation Unit Provenience Code Format, All Sites, Lake Sharpe Testing Project, South Dakota, WCRM, 1987. Designed for use with PC-File/R data base program. Field labels and code values used to compile Tables D2-D9.

Field Label	Field Length	Field Code	Variable and Field Code Value
SNO	3	***	SITE NUMBER (last digits only)
		83	39HU83
		146	39LM146
		149	39LM149
		156	39LM156
		166	39LM166
		120	39ST120
		121	39ST121
		122	39ST122
CNO	3	***	CATALOG NUMBER
TN	2	**	TEST UNIT NUMBER
LN	2	**	LEVEL NUMBER
SD	7	*******	SURFACE DEPTH (cm) (e.g., 100-110)
RT	2	**	RECOVERY TYPE
		DS	one-quarter inch dry screen
		WS	one-sixteenth inch water screen
		FT	flotation sample
		PL	pollen sample
		NS	not screened
		UF	unexcavated feature
		AL	above surface level relative to datum (air level), no excavation
PES	3	***	PERCENT OF EXCAVATION UNIT SAMPLE
		100	100% of sample
		89	89% of sample (dry screen fraction)
		11	11% of sample (water screen fraction)
		NA	not applicable
HN	2	**	HOUSE NUMBER (earthlodge structures)
FNO	3	**	FEATURE NUMBER (features other than houses)

Table D1. Excavation Unit Provenience Code Format, All Sites, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued). Designed for use with PC-File/R data base program. Field labels and code values used to compile Tables D2-D9.

Field Label	Field Length	Field Code	Variable and Field Code Value
FT	2	**	FEATURE TYPE (other than houses)
		PT	pit
		HT	hearth
		PO	post, wooden post butt
		PH	post hole, mold
		BM	beam
		AC	artifact concentration
		MD	mound
		OR	other, unknown, indeterminate
		RR	rodent run
		TR	tree root
ACU	3	***	ARCHEOLOGICAL CONTEXT UNIT
		GLV	general level or fill above earthlodge
		ORF	outer rooffall, earthlodge
		IRF	inner rooffall, earthlodge
		GRF	general rooffall, earthlodge
		RFL	rooffall to floor, earthlodge
		FLR	floor, earthlodge, and associated features
		HTF	hearth fill, no associated structure
		PTF	pit fill, no associated structure
		MDF	mound fill
		SBM	submound
		OTR	other, unknown, indeterminate
CHU	3	***	CULTURAL-HISTORICAL UNIT
		LPW	Late Plains Woodland
		IMM	Initial Middle Missouri
		EC	Extended Coalescent
		PCC	Post-Contact Coalescent
		LTC	Late Ceramic (prehistoric)
		ERC	Early Ceramic (prehistoric)
		REC	recent, historic
		MIX	mixed, prehistoric/historic
		UKN	unknown, indeterminate
		NC	noncultural, sterile
		EPM	ephemeral, no analytical value
		NA	not applicable

Table D2. Provenience Data for Test Excavations at the West Bend Site (39HU83), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
83	101	1	1	0-10	DS	100				GLV	REC
83	102	1	2	10-20	DS	100				GLV	REC
83	103	1	3	20-30	DS	100				GLV	REC
83	201	2	1	0-10	DS	100				GLV	MIX
83	202	2	2	10-20	DS	100				GLV	EC
83	203	2	3	20-30	DS	100				GLV	NC
83	301	3	1	0-10	DS	100				GLV	REC
83	302	3	2	10-20	DS	100				GLV	MIX
83	303	3	3	20-30	DS	100				GLV	MIX
83	304	3	4	27-35	NS	100		101	RR	OTR	NA
83	401	4	1	0-10	DS	100				GLV	EC
83	402	4	2	10-20	DS	100				GLV	EC
83	403	4	3	20-30	DS	100				GLV	EC
83	501	5	1	0-10	DS	100				GLV	EC
83	502	5	2	10-20	DS	100				GLV	EC
83	503	5	3	20-30	DS	100				GLV	EC
83	601	6	1	0-10	DS	100				GLV	MIX
83	602	6	2	10-20	DS	100				GLV	EC
83	603	6	3	20-30	DS	100				GLV	EC
83	701	7	1	0-10	DS	100				GLV	MIX
83	702	7	2	10-20	DS	100				GLV	EC
83	703	7	3	20-30	DS	100				GLV	EC
83	801	8	1	0-10	DS	100				GLV	MIX
83	802	8	2	10-20	DS	100				GLV	EC
83	803	8	3	20-30	DS	100				GLV	EC
83	804	8	4	30-43	WS	100		100	PT	PTF	EC

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
146	101	1	1	0-10	DS	100				GLV	MIX
146	102	1	2	10-20	DS	100				GLV	EPM
146	103	1	3	20-30	DS	100				GLV	EPM
146	104	1	4	30-40	DS	100				GLV	EPM
146	105	1	5	40-50	DS	100				GLV	EPM
146	106	1	6	50-60	DS	100				GLV	IMM
146	107	1	7	60-70	DS	100				GLV	IMM
146	108	1	8	70-80	DS	100				GLV	IMM
146	109	1	9	80-90	DS	100				GLV	NC
146	110	1	10	90-100	DS	100				GLV	NC
146	201	2	1	0-10	DS	100				GLV	EPM
146	202	2	2	10-20	DS	100				GLV	IMM
146	203	2	3	20-30	DS	100				GLV	IMM
146	204	2	4	30-40	DS	100				GLV	IMM
146	205	2	5	40-50	DS	100				GLV	EPM
146	206	2	6	50-60	DS	100				GLV	NC
146	300	3	1	0-10	DS	89	15			GLV	EPM
146	301	3	1	0-10	WS	11	15			GLV	EPM
146	302	3	2	10-20	DS	89	15			GLV	EPM
146	303	3	2	10-20	WS	11	15			GLV	EPM
146	304	3	3	20-30	DS	89	15			ORF	IMM
146	305	3	3	20-30	WS	11	15			ORF	IMM
146	306	3	4	30-40	DS	89	15			ORF	IMM
146	307	3	4	30-40	WS	11	15			ORF	IMM
146	308	3	5	40-45	DS	89	15			IRF	IMM
146	309	3	5	40-45	WS	11	15			IRF	IMM
146	310	3	6	45-55	DS	89	15			IRF	IMM
146	311	3	6	45-55	WS	11	15			IRF	IMM
146	312	3	7	55-60	DS	89	15			IRF	IMM
146	313	3	7	55-60	WS	11	15			IRF	IMM
146	314	3	8	60-70	DS	89	15			IRF	IMM
146	315	3	8	60-70	WS	11	15			IRF	IMM
146	316	3	9	70-80	DS	89	15			RFL	IMM
146	317	3	9	70-80	WS	11	15			RFL	IMM
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
146	401	4	1	0-10	DS	100				GLV	EPM
146	402	4	2	10-20	DS	100				GLV	EPM
146	403	4	3	20-30	DS	100				GLV	IMM
146	404	4	4	30-40	DS	100				GLV	IMM
146	405	4	5	40-50	DS	100				GLV	EPM
146	406	4	6	50-60	DS	100				GLV	NC
146	500	5	1	0-10	DS	89	11			GLV	EPM
146	501	5	1	0-10	WS	11	11			GLV	EPM
146	502	5	2	10-20	DS	89	11			GLV	UKN
146	503	5	2	10-20	WS	11	11			GLV	UKN
146	504	5	3	20-30	DS	89	11			GLV	EPM
146	505	5	3	20-30	WS	11	11			GLV	EPM
146	506	5	4	30-40	DS	89	11			GLV	EPM
146	507	5	4	30-40	WS	11	11			GLV	EPM
146	508	5	5	40-50	DS	89	11			GLV	EPM
146	509	5	5	40-50	WS	11	11			GLV	EPM
146	510	5	6	50-60	DS	89	11			ORF	IMM
146	511	5	6	50-60	WS	11	11			ORF	IMM
146	512	5	7	60-70	DS	89	11			ORF	IMM
146	513	5	7	60-70	WS	11	11			ORF	IMM
146	514	5	8	70-80	DS	89	11			ORF	IMM
146	515	5	8	70-80	WS	11	11			ORF	IMM
146	516	5	9	80-90	DS	89	11			ORF	IMM
146	517	5	9	80-90	WS	11	11			ORF	IMM
146	518	5	10	90-100	DS	89	11			IRF	IMM
146	519	5	10	90-100	WS	11	11			IRF	IMM
146	520	5	11	100-110	DS	89	11			IRF	IMM
146	521	5	11	100-110	WS	11	11			IRF	IMM
146	522	5	12	110-125	DS	89	11			RFL	IMM
146	523	5	12	110-125	WS	11	11			RFL	IMM
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM
146	600	6	1	0-10	AL	NA	11			OTR	NA
146	601	6	1	0-10	AL	NA	11			OTR	NA
146	602	6	2	10-20	DS	89	11			GLV	EPM
146	603	6	2	10-20	WS	11	11			GLV	EPM
146	604	6	3	20-30	DS	89	11			GLV	EPM
146	605	6	3	20-30	WS	11	11			GLV	EPM

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
146	606	6	4	30-40	DS	89	11			GLV	EPM
146	607	6	4	30-40	WS	11	11			GLV	EPM
146	608	6	5	40-50	DS	89	11			GLV	EPM
146	609	6	5	40-50	WS	11	11			GLV	EPM
146	610	6	6	50-60	DS	89	11			ORF	IMM
146	611	6	6	50-60	WS	11	11			ORF	IMM
146	612	6	7	60-70	DS	89	11			ORF	IMM
146	613	6	7	60-70	WS	11	11			ORF	IMM
146	614	6	8	70-80	DS	89	11			ORF	IMM
146	615	6	8	70-80	WS	11	11			ORF	IMM
146	616	6	9	80-90	DS	89	11			ORF	IMM
146	617	6	9	80-90	WS	11	11			ORF	IMM
146	618	6	10	90-100	DS	89	11			IRF	IMM
146	619	6	10	90-100	WS	11	11			IRF	IMM
146	620	6	11	100-110	DS	89	11			IRF	IMM
146	621	6	11	100-110	WS	11	11			IRF	IMM
146	622	6	12	110-125	DS	89	11			RFL	IMM
146	623	6	12	110-125	WS	11	11			RFL	IMM
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM
146	700	7	1	0-10	AL	NA	11			OTR	NA
146	701	7	1	0-10	AL	NA	11			OTR	NA
146	702	7	2	10-20	DS	89	11			GLV	EPM
146	703	7	2	10-20	WS	11	11			GLV	EPM
146	704	7	3	20-30	DS	89	11			GLV	UKN
146	705	7	3	20-30	WS	11	11			GLV	UKN
146	706	7	4	30-40	DS	89	11			GLV	EPM
146	707	7	4	30-40	WS	11	11			GLV	EPM
146	708	7	5	40-50	DS	89	11			GLV	EPM
146	709	7	5	40-50	WS	11	11			GLV	EPM
146	710	7	6	50-60	DS	89	11			ORF	IMM
146	711	7	6	50-60	WS	11	11			ORF	IMM
146	712	7	7	60-70	DS	89	11			ORF	IMM
146	713	7	7	60-70	WS	11	11			ORF	IMM
146	714	7	8	70-80	DS	89	11			ORF	IMM
146	715	7	8	70-80	WS	11	11			ORF	IMM
146	716	7	9	80-90	DS	89	11			ORF	IMM
146	717	7	9	80-90	WS	11	11			ORF	IMM
146	718	7	10	90-100	DS	89	11			IRF	IMM
146	719	7	10	90-100	WS	11	11			IRF	IMM
146	720	7	11	100-110	DS	89	11			IRF	IMM

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
146	721	7	11	100-110	WS	11	11			IRF	IMM
146	722	7	12	110-128	DS	89	11			RFL	IMM
146	723	7	12	110-128	WS	11	11			RFL	IMM
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM
146	800	8	1	0-10	AL	NA	11			OTR	NA
146	801	8	1	0-10	AL	NA	11			OTR	NA
146	802	8	2	10-20	DS	89	11			GLV	EPM
146	803	8	2	10-20	WS	11	11			GLV	EPM
146	804	8	3	20-30	DS	89	11			GLV	EPM
146	805	8	3	20-30	WS	11	11			GLV	EPM
146	806	8	4	30-40	DS	89	11			GLV	EPM
146	807	8	4	30-40	WS	11	11			GLV	EPM
146	808	8	5	40-50	DS	89	11			GLV	EPM
146	809	8	5	40-50	WS	11	11			GLV	EPM
146	810	8	6	50-60	DS	89	11			ORF	IMM
146	811	8	6	50-60	WS	11	11			ORF	IMM
146	812	8	7	60-70	DS	89	11			ORF	IMM
146	813	8	7	60-70	WS	11	11			ORF	IMM
146	814	8	8	70-80	DS	89	11			ORF	IMM
146	815	8	8	70-80	WS	11	11			ORF	IMM
146	816	8	9	80-90	DS	89	11			ORF	IMM
146	817	8	9	80-90	WS	11	11			ORF	IMM
146	818	8	10	90-100	DS	89	11			IRF	IMM
146	819	8	10	90-100	WS	11	11			IRF	IMM
146	820	8	11	100-110	DS	89	11			IRF	IMM
146	821	8	11	100-110	WS	11	11			IRF	IMM
146	822	8	12	110-125	DS	89	11			RFL	IMM
146	823	8	12	110-125	WS	11	11			RFL	IMM
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM
146	900	9	1	0-10	DS	89	15			GLV	EPM
146	901	9	1	0-10	WS	11	15			GLV	EPM
146	902	9	2	10-20	DS	89	15			GLV	EPM
146	903	9	2	10-20	WS	11	15			GLV	EPM
146	904	9	3	20-30	DS	89	15			ORF	IMM
146	905	9	3	20-30	WS	11	15			ORF	IMM

Table D3. Provenience Data for Test Excavations at the Antelope Dreamer Site (39LM146), Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
146	906	9	4	30-40	DS	89	15			ORF	IMM
146	907	9	4	30-40	WS	11	15			ORF	IMM
146	908	9	5	40-45	DS	89	15			IRF	IMM
146	909	9	5	40-45	WS	11	15			IRF	IMM
146	910	9	6	45-55	DS	89	15			IRF	IMM
146	911	9	6	45-55	WS	11	15			IRF	IMM
146	912	9	7	55-65	DS	89	15			IRF	IMM
146	913	9	7	55-65	WS	11	15			IRF	IMM
146	914	9	8	65-70	DS	89	15			IRF	IMM
146	915	9	8	65-70	WS	11	15			IRF	IMM
146	916	9	9	70-75	DS	89	15			RFL	IMM
146	917	9	9	70-75	WS	11	15			RFL	IMM
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM
146	921	9	8	66-69	NS	100	15	106	BM	FLR	IMM
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA

Table D4. Provenience Data for Test Excavations at the Windy Mounds Site (39LM149), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
149	101	1	1	0-10	DS	100		1	MD	MDF	LPW
149	102	1	2	10-20	DS	100		1	MD	MDF	LPW
149	103	1	3	20-30	DS	100		1	MD	MDF	LPW
149	104	1	4	30-40	DS	100		1	MD	MDF	LPW
149	105	1	5	40-50	DS	100		1	MD	SBM	LPW
149	201	2	1	0-10	DS	100		2	MD	MDF	LPW
149	202	2	2	10-20	DS	100		2	MD	MDF	LPW
149	203	2	3	20-30	DS	100		2	MD	MDF	LPW
149	204	2	4	30-40	DS	100		2	MD	MDF	LPW
149	205	2	5	40-50	DS	100		2	MD	SBM	LPW
149	301	3	1	0-10	DS	100				GLV	NC
149	302	3	2	10-20	DS	100				GLV	LPW
149	303	3	3	20-30	DS	100				GLV	NC
149	304	3	4	30-40	DS	100				GLV	NC
149	305	3	5	40-50	DS	100				GLV	NC

Table D5. Provenience Data for Test Excavations at the Betty Bite Off Site (39LM156), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
156	101	1	1	0-10	DS	100				GLV	NC
156	102	1	2	10-20	DS	100				GLV	NC
156	103	1	3	20-30	DS	100				GLV	NC
156	104	1	4	30-40	DS	100				GLV	NC
156	105	1	5	40-50	DS	100				GLV	LTC
156	106	1	6	50-60	DS	100				GLV	LTC
156	107	1	7	60-70	DS	100				GLV	LTC
156	108	1	8	70-80	DS	100				GLV	NC
156	109	1	9	80-90	DS	100				GLV	ERC
156	110	1	10	90-100	DS	100				GLV	ERC
156	111	1	11	100-110	DS	100				GLV	ERC
156	112	1	12	110-120	DS	100				GLV	ERC
156	113	1	13	120-130	DS	100				GLV	EPM
156	201	2	1	0-10	AL	100				GLV	NC
156	202	2	2	10-20	DS	100				GLV	REC
156	203	2	3	20-30	DS	100				GLV	REC
156	204	2	4	30-40	DS	100				GLV	NC
156	205	2	5	40-50	DS	100				GLV	NC
156	206	2	6	50-60	DS	100				GLV	LTC
156	207	2	7	60-70	DS	100				GLV	NC
156	208	2	8	70-80	DS	100				GLV	EPM
156	209	2	9	80-90	DS	100				GLV	NC
156	210	2	10	90-100	DS	100				GLV	ERC
156	211	2	11	100-110	DS	100				GLV	ERC
156	212	2	12	110-120	DS	100				GLV	ERC
156	213	2	13	120-130	DS	100				GLV	EPM
156	301	3	1	0-10	DS	100				GLV	NC
156	302	3	2	10-20	DS	100				GLV	NC
156	303	3	3	20-30	DS	100				GLV	NC
156	304	3	4	30-40	DS	100				GLV	NC
156	305	3	5	40-50	DS	100				GLV	NC
156	306	3	6	50-60	DS	100				GLV	NC
156	307	3	7	60-70	DS	100				GLV	ERC
156	308	3	8	70-80	DS	100				GLV	ERC
156	309	3	9	80-90	DS	100				GLV	ERC

Table D6. Provenience Data for Test Excavations at the Buzzing Yucca Site (39LM166), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
166	101	1	1	0-10	DS	100	5			GLV	EC
166	102	1	2	10-20	DS	100	5			GLV	EC
166	103	1	3	20-30	DS	100	5			GRF	EC
166	104	1	4	30-43	DS	89	5			RFL	EC
166	105	1	4	30-43	WS	11	5			RFL	EC
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC
166	201	2	1	0-10	DS	100	5			GLV	EC
166	202	2	2	10-20	DS	100	5			GLV	EC
166	203	2	3	20-30	DS	100	5			GRF	EC
166	204	2	4	30-43	DS	89	5			RFL	EC
166	205	2	4	30-43	WS	11	5			RFL	EC
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC
166	301	3	1	0-10	DS	100				GLV	EC
166	302	3	2	10-20	DS	100				GLV	EC
166	303	3	3	20-32	DS	100				GLV	EC
166	304	3	3	30-49	NS	100		102	TR	OTR	NA
166	401	4	1	0-10	DS	100				GLV	EC
166	402	4	2	10-20	DS	100				GLV	EC
166	403	4	3	20-30	DS	100				GLV	EC
166	404	4	4	30-40	DS	100				GLV	EPM
166	501	5	1	0-10	DS	100				GLV	EC
166	502	5	2	10-20	DS	100				GLV	NC
166	601	6	1	0-10	DS	100	6			GLV	MIX
166	602	6	2	10-20	DS	100	6			GLV	MIX
166	603	6	3	20-30	DS	100	6			ORF	EC
166	604	6	4	30-37	DS	100	6			RFL	EC
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC
166	701	7	1	0-10	DS	100				GLV	EC
166	702	7	2	10-20	DS	100				GLV	EC
166	703	7	3	20-30	DS	100				GLV	EPM
166	801	8	1	0-10	DS	100				GLV	EC
166	802	8	2	10-20	DS	100				GLV	EC
166	803	8	3	20-30	DS	100				GLV	EPM

Table D7. Provenience Data for Test Excavations at the Ghost Lodge Site (39ST120), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
120	101	1	1	0-10	DS	100				GLV	NC
120	102	1	2	10-20	DS	100				GLV	NC
120	103	1	3	20-30	DS	100				GLV	NC
120	104	1	4	30-40	DS	100				GLV	NC
120	105	1	5	40-50	DS	100				GLV	NC
120	106	1	6	50-60	DS	100				GLV	NC
120	107	1	7	60-70	DS	100				GLV	NC
120	201	2	1	0-10	DS	100				GLV	NC
120	202	2	2	10-20	DS	100				GLV	PCC
120	203	2	3	20-30	DS	100				GLV	PCC
120	204	2	4	30-40	DS	100				GLV	PCC
120	205	2	5	40-50	DS	100				GLV	NC
120	206	2	6	50-60	DS	100				GLV	NC
120	207	2	7	60-70	DS	100				GLV	NC
120	208	2	8	70-80	DS	100				GLV	NC
120	301	3	1	0-10	DS	100	2			GLV	NC
120	302	3	2	10-20	DS	100	2			GLV	NC
120	303	3	3	20-30	DS	100	2			GLV	EPM
120	304	3	4	30-40	DS	100	2			GLV	EPM
120	305	3	5	40-50	DS	100	2			GLV	EPM
120	306	3	6	50-65	DS	89	2			RFL	PCC
120	307	3	6	50-65	WS	11	2			RFL	PCC
120	308	3	7	65-66	DS	100	2			FLR	PCC
120	309	3	8	66-81	WS	50	2	101	HT	FLR	PCC
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC
120	401	4	1	0-10	DS	100	2			GLV	NC
120	402	4	2	10-20	DS	100	2			GLV	NC
120	403	4	3	20-30	DS	100	2			GLV	NC
120	404	4	4	30-40	DS	100	2			GLV	EPM
120	405	4	5	40-50	DS	100	2			GLV	EPM
120	406	4	6	50-65	DS	100	2			RFL	PCC
120	407	4	7	65-67	DS	100	2			FLR	PCC
120	408	4	7	65	NS	100	2	100	RR	OTR	NA
120	501	5	1	0-10	NS	100	2			GLV	NC
120	502	5	2	10-20	DS	100	2			GLV	NC
120	503	5	3	20-30	DS	100	2			GLV	NC
120	504	5	4	30-40	DS	100	2			GLV	EPM
120	505	5	5	40-50	DS	100	2			GLV	EPM
120	506	5	6	50-65	DS	89	2			RFL	PCC
120	507	5	6	50-65	WS	11	2			RFL	PCC

Table D7. Provenience Data for Test Excavations at the Ghost Lodge Site (39ST120), Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
120	601	6	1	0-10	NS	100	2			GLV	NC
120	602	6	2	10-20	DS	100	2			GLV	EPM
120	603	6	3	20-30	DS	100	2			GLV	EPM
120	604	6	4	30-40	DS	100	2			GRF	PCC
120	605	6	5	40-50	DS	100	2			RFL	PCC
120	606	6	6	50-61	DS	100	2			RFL	PCC
120	701	7	1	0-10	DS	100				GLV	NC
120	702	7	2	10-20	DS	100				GLV	EPM
120	703	7	3	20-30	DS	100				GLV	PCC
120	704	7	4	30-40	DS	100				GLV	PCC
120	705	7	5	40-50	DS	100				GLV	PCC
120	706	7	6	50-60	DS	100				GLV	PCC
120	707	7	7	60-70	DS	100				GLV	NC
120	708	7	8	70-80	DS	100				GLV	NC
120	801	8	1	0-10	DS	100				GLV	NC
120	802	8	2	10-20	DS	100				GLV	EPM
120	803	8	3	20-30	DS	100				GLV	PCC
120	804	8	4	30-40	DS	100				GLV	NC
120	805	8	5	40-50	DS	100				GLV	NC
120	806	8	6	50-60	DS	100				GLV	NC
120	807	8	7	60-70	DS	100				GLV	NC
120	808	8	8	70-80	DS	100				GLV	EPM
120	809	8	9	80-90	DS	100				GLV	NC
120	810	8	10	90-100	DS	100				GLV	UKN
120	811	8	11	100-110	DS	100				GLV	UKN

Table D8. Provenience Data for Test Excavations at the Cache Site (39ST121), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
121	101	1	1	0-10	DS	100				GLV	REC
121	102	1	2	10-20	DS	100				GLV	NC
121	103	1	3	20-30	DS	100				GLV	NC
121	104	1	4	30-40	DS	100				GLV	NC
121	105	1	5	40-50	DS	100				GLV	NC
121	106	1	6	50-60	DS	100				GLV	NC
121	107	1	7	60-70	DS	100				GLV	NC
121	201	2	1	0-10	DS	100				GLV	NC
121	202	2	2	10-20	DS	100				GLV	NC
121	203	2	3	20-30	DS	100				GLV	NC
121	204	2	4	30-40	DS	100				GLV	NC

Table D9. Provenience Data for Test Excavations at the Sitting Buzzard Site (39ST122), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU
122	101	1	1	0-10	DS	100		1	OR	GLV	NC
122	102	1	2	10-20	DS	100		1	OR	GLV	EPM
122	103	1	3	20-30	DS	100		1	OR	GLV	EPM
122	201	2	1	0-10	DS	100				GLV	PCC
122	202	2	2	10-20	DS	100				GLV	PCC
122	203	2	3	20-30	DS	100				GLV	PCC
122	204	2	4	30-40	DS	100				GLV	PCC
122	205	2	5	40-50	DS	100				GLV	EPM
122	206	2	6	50-60	DS	100				GLV	NC
122	301	3	1	0-10	DS	100				GLV	NC
122	302	3	2	10-20	DS	100				GLV	PCC
122	303	3	3	20-30	DS	100				GLV	EPM
122	304	3	4	30-40	DS	100				GLV	EPM
122	305	3	5	40-50	DS	100				GLV	UKN
122	306	3	6	50-60	DS	100				GLV	EPM
122	307	3	7	60-70	DS	100				GLV	EPM
122	308	3	8	70-80	DS	100				GLV	LPW
122	309	3	9	80-90	DS	100				GLV	LPW
122	310	3	10	90-100	DS	100				GLV	LPW
122	401	4	1	0-10	DS	100				GLV	MIX
122	402	4	2	10-20	DS	100				GLV	PCC
122	403	4	3	20-30	DS	100				GLV	EPM
122	404	4	4	30-40	DS	100				GLV	UKN
122	405	4	5	40-50	DS	100				GLV	UKN
122	406	4	6	50-60	DS	100				GLV	LPW
122	407	4	7	60-70	DS	100				GLV	LPW
122	408	4	8	70-80	DS	100				GLV	LPW
122	501	5	1	0-10	DS	100				GLV	EPM
122	502	5	2	10-20	DS	100				GLV	PCC
122	503	5	3	20-30	DS	100				GLV	PCC
122	504	5	4	30-40	DS	100				GLV	PCC
122	505	5	5	40-50	DS	100				GLV	NC
122	506	5	6	50-60	DS	100				GLV	NC
122	601	6	1	0-10	DS	100				GLV	NC
122	602	6	2	10-20	DS	100				GLV	NC
122	603	6	3	20-30	DS	100				GLV	EPM
122	604	6	4	30-40	DS	100				GLV	EPM
122	605	6	5	40-50	DS	100				GLV	NC
122	606	6	6	50-60	DS	100				GLV	NC
122	607	6	7	60-70	DS	100				GLV	NC
122	608	6	8	70-80	DS	100				GLV	NC

APPENDIX E

ARTIFACT (AND OTHER MATERIAL) INVENTORY CODES, DATA BASES 1-5

Native Ceramics Inventory Code (Data Base 1), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Bone Inventory Code (Data Base 2), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Lithic Inventory Code (Data Base 3), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Miscellaneous 1 Inventory Code (Data Base 4), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Miscellaneous 2 Inventory Code (Data Base 5), Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Note: All weights are stated to the nearest whole gram.

ARTIFACT INVENTORY CODE
LAKE SHARPE TESTING PROJECT, SOUTH DAKOTA, 1987
WESTERN CULTURAL RESOURCE MANAGEMENT, BOULDER, COLORADO
(for use with PC-File/R)

Data Base	Field Label	Field Length	Variable
Data Base 1 - Native Ceramics (Pottery)			
1	SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE		
	G1BS#	4	Number of Grade 1 Body Sherds
	G2BS#	4	Number of Grade 2 Body Sherds
	G3BS#	4	Number of Grade 3 Body Sherds
	G1RM#	4	Number of Grade 1 Rim Sherds
	G2RM#	4	Number of Grade 2 Rim Sherds
	G3RM#	4	Number of Grade 3 Rim Sherds
	PLAINBS#	3	Number of Plain or Smoothed Body Sherds in Grade 1-2
	SIMPLBS#	3	Number of Simple-Stamped Body Sherds in Grade 1-2
	CORDRBS#	3	Number of Cord-Roughened Body Sherds in Grade 1-2
	CHECKBS#	3	Number of Check-Stamped Body Sherds in Grade 1-2
	BRUSHBS#	3	Number of Brushed Body Sherds in Grade 1-2
	DECORBS#	3	Number of Decorated Body Sherds in Grade 1-2
	INDETBS#	3	Number of Indeterminate Body Sherds in Grade 1-2

ARTIFACT INVENTORY CODE
LAKE SHARPE TESTING PROJECT, SOUTH DAKOTA, 1987
WESTERN CULTURAL RESOURCE MANAGEMENT, BOULDER, COLORADO
(for use with PC-File/R)

Data Base	Field Label	Field Length	Variable
Data Base 2 - Bone (Vertebrate Fauna) (weights are to the nearest whole gram)			
2	SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE		
	G1BN#	4	Total Weight of Grade 1 Bone
	G2BN#	4	Total Weight of Grade 2 Bone
	G3BN#	4	Total Weight of Grade 3 Bone
	G1BB#	4	Weight of Grade 1 Burned Bone
	G2BB#	4	Weight of Grade 2 Burned Bone
	G3BB#	4	Weight of Grade 3 Burned Bone
	G13IB#	5	Total Count Grade 1-3 Identifiable Bone*
	G45IB#	5	Total Count Grade 4-5 Identifiable Bone*
	G15MB#	5	Total Count Grade 1-5 Modified Bone**
Data Base 3 - Lithics (Stone Tools, Flaking Debris, Fire-Cracked Rock) (weights are to the nearest whole gram)			
3	SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE		
	STL#	3	Total Count of Grade 1-5 Stone Tools
	G1FK#	4	Number of Grade 1 Flaking Debris
	G2FK#	4	Number of Grade 2 Flaking Debris
	G3FK#	4	Number of Grade 3 Flaking Debris
	G4FK#	4	Number of Grade 4 Flaking Debris
	G1FCR#	5	Weight of Grade 1 Fire-Cracked Rock
	G2FCR#	5	Weight of Grade 2 Fire-Cracked Rock
	G3FCR#	5	Weight of Grade 3 Fire-Crackek Rock

*Preliminary sorting count recorded here; will not necessarily agree with final counts reported in Appendix B.

**Stated as the number of pieces/fragments of modified bone as determined during initial sorting; does not represent the number of discrete specimens (i.e., distinct bone tools), which is reported in Appendix B.

ARTIFACT INVENTORY CODE
LAKE SHARPE TESTING PROJECT, SOUTH DAKOTA, 1987
WESTERN CULTURAL RESOURCE MANAGEMENT, BOULDER, COLORADO
(for use with PC-File/R)

Data Base	Field Label	Field Length	Variable
Data Base 4 - Miscellaneous 1 (Clinker, Shell, Ochre, Burned Earth/Fired Clay) (weights are to the nearest whole gram)			
4	SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE		
	G1CR#	4	Number of Grade 1 Natural Clinker
	G2CR#	4	Number of Grade 2 Natural Clinker
	G3CR#	4	Number of Grade 3 Natural Clinker
	G1SL#	4	Number of Grade 1 Unmodified Shell
	G2SL#	4	Number of Grade 2 Unmodified Shell
	G3SL#	4	Number of Grade 3 Unmodified Shell
	ISL#	3	Total Count of Grade 1-3 Identifiable Shell
	MSL#	3	Total Count of Grade 1-3 Modified Shell
	G1OR#	4	Weight of Grade 1 Ochre/Pigment
	G2OR#	4	Weight of Grade 2 Ochre/Pigment
	G3OR#	4	Weight of Grade 3 Ochre/Pigment
	G1BE#	4	Weight of Grade 1 Burned Earth/Fired Clay
	G2BE#	4	Weight of Grade 2 Burned Earth/Fired Clay
	G3BE#	4	Weight of Grade 3 Burned Earth/Fired Clay

ARTIFACT INVENTORY CODE
LAKE SHARPE TESTING PROJECT, SOUTH DAKOTA, 1987
WESTERN CULTURAL RESOURCE MANAGEMENT, BOULDER, COLORADO
(for use with PC-File/R)

Data Base	Field Label	Field Length	Variable
Data Base 5 - Miscellaneous 2 (Ash, Charcoal/Wood, Miscellaneous Native Material, Miscellaeous Euroamerican Material, Heavy Fraction Residue, Light Fraction Residue) (weights are to the nearest whole gram)			
5	SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE		
	G1AH#	4	Weight of Grade 1 Ash
	G2AH#	4	Weight of Grade 2 Ash
	G3AH#	4	Weight of Grade 3 Ash
	CLW#	3	Total Weight of Grade 1-3 Charcoal/Wood
	GTB#	3	Number of Grade 1-5 Glass Trade Beads
	OTG#	3	Number of Grade 1-5 Other Trade Glass
	TML#	3	Number of Grade 1-5 Trade Metal
	ONM#	3	Number of Grade 1-5 Other Native Material
	EGL#	3	Number of Grade 1-5 Euroamerican Glass
	ECR#	3	Number of Grade 1-5 Euroamerican Ceramics
	EML#	3	Number of Grade 1-5 Euroamerican Metal
	OREM#	4	Number of Grade 1-5 Other Euroamerican Material
	HFR#	3	Total Weight of Grade 4-5 Unsorted Heavy Fraction Residue
	LFR#	3	Total Weight of Unsorted Light Fraction Residue (not size graded)

APPENDIX F

ARTIFACT INVENTORY DATA FOR THE WEST BEND SITE (39HU83)

39HU83 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39HU83 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39HU83 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39HU83 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39HU83 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
83	101	1	1	0-10	DS	100				GLV	REC													
83	102	1	2	10-20	DS	100				GLV	REC													
83	103	1	3	20-30	DS	100				GLV	REC													
83	201	2	1	0-10	DS	100				GLV	MIX													
83	202	2	2	10-20	DS	100				GLV	EC													
83	203	2	3	20-30	DS	100				GLV	NC													
83	301	3	1	0-10	DS	100				GLV	REC													
83	302	3	2	10-20	DS	100				GLV	MIX		6	7				6						
83	303	3	3	20-30	DS	100				GLV	MIX		1	1									1	
83	304	3	4	27-35	NS	100		101	RR	OTR	NA													
83	401	4	1	0-10	DS	100				GLV	EC			6										
83	402	4	2	10-20	DS	100				GLV	EC		10	30				3	6					1
83	403	4	3	20-30	DS	100				GLV	EC		3	3				1	1					1
83	501	5	1	0-10	DS	100				GLV	EC		2	4		1	1	1						1
83	502	5	2	10-20	DS	100				GLV	EC													
83	503	5	3	20-30	DS	100				GLV	EC			1			1							
83	601	6	1	0-10	DS	100				GLV	MIX			1										
83	602	6	2	10-20	DS	100				GLV	EC													
83	603	6	3	20-30	DS	100				GLV	EC													
83	701	7	1	0-10	DS	100				GLV	MIX													
83	702	7	2	10-20	DS	100				GLV	EC			1										
83	703	7	3	20-30	DS	100				GLV	EC													
83	801	8	1	0-10	DS	100				GLV	MIX													
83	802	8	2	10-20	DS	100				GLV	EC			2										
83	803	8	3	20-30	DS	100				GLV	EC			1										
83	804	8	4	30-43	WS	100		100	PT	PTF	EC													

TOTALS

G1BS	0.00
G2BS	22.00
G3BS	57.00
G1RM	0.00
G2RM	1.00
G3RM	2.00
PLAINBS	11.00
SIMPLBS	7.00
CORDBS	0.00
CHECKBS	0.00
BRUSHBS	0.00
DECORBS	1.00
INDETBS	3.00

39MU83 — BONE ARTIFACT INVENTORY (DATA BASE 2) — WCRM/USACE 1987

08-29-89

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
83	101	1	1	0-10	DS	100				GLV	REC			4						
83	102	1	2	10-20	DS	100				GLV	REC			3						
83	103	1	3	20-30	DS	100				GLV	REC			14						
83	201	2	1	0-10	DS	100				GLV	MIX		15	20				1		
83	202	2	2	10-20	DS	100				GLV	EC		6	11			1			
83	203	2	3	20-30	DS	100				GLV	NC									
83	301	3	1	0-10	DS	100				GLV	REC									
83	302	3	2	10-20	DS	100				GLV	MIX			3						
83	303	3	3	20-30	DS	100				GLV	MIX	13	1	1						
83	304	3	4	27-35	NS	100		101	RR	OTR	NA									
83	401	4	1	0-10	DS	100				GLV	EC	5	28	62		6	6			
83	402	4	2	10-20	DS	100				GLV	EC	6	49	50			8			
83	403	4	3	20-30	DS	100				GLV	EC			7			1			
83	501	5	1	0-10	DS	100				GLV	EC	69	149	107			8			
83	502	5	2	10-20	DS	100				GLV	EC			6			1			
83	503	5	3	20-30	DS	100				GLV	EC		1	3						
83	601	6	1	0-10	DS	100				GLV	MIX		20	15			2			
83	602	6	2	10-20	DS	100				GLV	EC		19	19			1			
83	603	6	3	20-30	DS	100				GLV	EC		1	2						
83	701	7	1	0-10	DS	100				GLV	MIX	32	158	72		9	19	2		
83	702	7	2	10-20	DS	100				GLV	EC	26	25	38			2	1		
83	703	7	3	20-30	DS	100				GLV	EC		69	110			6	1		
83	801	8	1	0-10	DS	100				GLV	MIX	8	7	29			4			
83	802	8	2	10-20	DS	100				GLV	EC		160	350		33	27			
83	803	8	3	20-30	DS	100				GLV	EC		44	67			1			
83	804	8	4	30-43	WS	100		100	PT	PTF	EC		2	4			2			

TOTALS

G1BN	159.00
G2BN	754.00
G3BN	997.00
G1BB	0.00
G2BB	48.00
G3BB	89.00
G13IB	5.00
G45IB	0.00
G15MB	0.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
83	101	1	1	0-10	DS	100				GLV	REC								
83	102	1	2	10-20	DS	100				GLV	REC								
83	103	1	3	20-30	DS	100				GLV	REC								
83	201	2	1	0-10	DS	100				GLV	MIX								
83	202	2	2	10-20	DS	100				GLV	EC								
83	203	2	3	20-30	DS	100				GLV	NC								
83	301	3	1	0-10	DS	100				GLV	REC								
83	302	3	2	10-20	DS	100				GLV	MIX								
83	303	3	3	20-30	DS	100				GLV	MIX								
83	304	3	4	27-35	NS	100		101	RR	OTR	NA								
83	401	4	1	0-10	DS	100				GLV	EC				4		43	33	4
83	402	4	2	10-20	DS	100				GLV	EC	2		1	16		30	67	11
83	403	4	3	20-30	DS	100				GLV	EC	1		1	1		48	13	
83	501	5	1	0-10	DS	100				GLV	EC	2		4	8		103	36	9
83	502	5	2	10-20	DS	100				GLV	EC	1			1				
83	503	5	3	20-30	DS	100				GLV	EC								1
83	601	6	1	0-10	DS	100				GLV	MIX	1			2			7	11
83	602	6	2	10-20	DS	100				GLV	EC							7	
83	603	6	3	20-30	DS	100				GLV	EC	1							
83	701	7	1	0-10	DS	100				GLV	MIX								
83	702	7	2	10-20	DS	100				GLV	EC				14				
83	703	7	3	20-30	DS	100				GLV	EC			4	16				
83	801	8	1	0-10	DS	100				GLV	MIX	2							
83	802	8	2	10-20	DS	100				GLV	EC				2				
83	803	8	3	20-30	DS	100				GLV	EC	1			2				
83	804	8	4	30-43	WS	100		100	PT	PTF	EC					2			

TOTALS

STL	11.00
G1FK	0.00
G2FK	10.00
G3FK	66.00
G4FK	2.00
G1FCR	224.00
G2FCR	163.00
G3FCR	36.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
83	101	1	1	0-10	DS	100				GLV	REC														
83	102	1	2	10-20	DS	100				GLV	REC														
83	103	1	3	20-30	DS	100				GLV	REC														
83	201	2	1	0-10	DS	100				GLV	MIX														
83	202	2	2	10-20	DS	100				GLV	EC														
83	203	2	3	20-30	DS	100				GLV	NC														
83	301	3	1	0-10	DS	100				GLV	REC														
83	302	3	2	10-20	DS	100				GLV	MIX														
83	303	3	3	20-30	DS	100				GLV	MIX														
83	304	3	4	27-35	MS	100	101	RR	OTR	NA															
83	401	4	1	0-10	DS	100				GLV	EC														
83	402	4	2	10-20	DS	100				GLV	EC														3
83	403	4	3	20-30	DS	100				GLV	EC														
83	501	5	1	0-10	DS	100				GLV	EC														1
83	502	5	2	10-20	DS	100				GLV	EC														
83	503	5	3	20-30	DS	100				GLV	EC														
83	601	6	1	0-10	DS	100				GLV	MIX													24	81
83	602	6	2	10-20	DS	100				GLV	EC														
83	603	6	3	20-30	DS	100				GLV	EC														
83	701	7	1	0-10	DS	100				GLV	MIX														
83	702	7	2	10-20	DS	100				GLV	EC													9	7
83	703	7	3	20-30	DS	100				GLV	EC														5
83	801	8	1	0-10	DS	100				GLV	MIX														
83	802	8	2	10-20	DS	100				GLV	EC														
83	803	8	3	20-30	DS	100				GLV	EC														
83	804	8	4	30-43	MS	100	100	PT	PTF	EC															

TOTALS

G1CR	0.00
G2CR	0.00
G3CR	0.00
G1SL	0.00
G2SL	0.00
G3SL	0.00
ISL	0.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	33.00
G3BE	97.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
83	101	1	1	0-10	DS	100				GLV	REC									1			1050		
83	102	1	2	10-20	DS	100				GLV	REC												2600		
83	103	1	3	20-30	DS	100				GLV	REC												2300		
83	201	2	1	0-10	DS	100				GLV	MIX				30							4			
83	202	2	2	10-20	DS	100				GLV	EC														
83	203	2	3	20-30	DS	100				GLV	NC														
83	301	3	1	0-10	DS	100				GLV	REC									1		2			
83	302	3	2	10-20	DS	100				GLV	MIX														
83	303	3	3	20-30	DS	100				GLV	MIX				25										
83	304	3	4	27-35	NS	100	101	RR		OTR	NA														
83	401	4	1	0-10	DS	100				GLV	EC				1										
83	402	4	2	10-20	DS	100				GLV	EC				1										
83	403	4	3	20-30	DS	100				GLV	EC														
83	501	5	1	0-10	DS	100				GLV	EC														
83	502	5	2	10-20	DS	100				GLV	EC														
83	503	5	3	20-30	DS	100				GLV	EC														
83	601	6	1	0-10	DS	100				GLV	MIX				109					91		2	55		
83	602	6	2	10-20	DS	100				GLV	EC				39										
83	603	6	3	20-30	DS	100				GLV	EC														
83	701	7	1	0-10	DS	100				GLV	MIX				22							2			
83	702	7	2	10-20	DS	100				GLV	EC				1										
83	703	7	3	20-30	DS	100				GLV	EC														
83	801	8	1	0-10	DS	100				GLV	MIX				1							3			
83	802	8	2	10-20	DS	100				GLV	EC				1										
83	803	8	3	20-30	DS	100				GLV	EC				6										
83	804	8	4	30-43	WS	100	100	PT		PTF	EC													22	8

TOTALS

G1AH	0.00
G2AH	0.00
G3AH	0.00
CLW	236.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	93.00
ECR	0.00
EML	13.00
OREM	6,005.00
HFR	22.00
LFR	8.00

APPENDIX G

ARTIFACT INVENTORY DATA FOR THE ANTELOPE DREAMER SITE (39LM146)

39LM146 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39LM146 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39LM146 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39LM146 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39LM146 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
146	101	1	1	0-10	DS	100				GLV	MIX		1											1
146	102	1	2	10-20	DS	100				GLV	EPM													
146	103	1	3	20-30	DS	100				GLV	EPM			1										
146	104	1	4	30-40	DS	100				GLV	EPM													
146	105	1	5	40-50	DS	100				GLV	EPM			2										
146	106	1	6	50-60	DS	100				GLV	IMM			3										
146	107	1	7	60-70	DS	100				GLV	IMM		1	4										1
146	108	1	8	70-80	DS	100				GLV	IMM		2	25				1		1				
146	109	1	9	80-90	DS	100				GLV	NC													
146	110	1	10	90-100	DS	100				GLV	NC													
146	201	2	1	0-10	DS	100				GLV	EPM													
146	202	2	2	10-20	DS	100				GLV	IMM		1	5				1						
146	203	2	3	20-30	DS	100				GLV	IMM		2	1		1				2				
146	204	2	4	30-40	DS	100				GLV	IMM			2										
146	205	2	5	40-50	DS	100				GLV	EPM			1										
146	206	2	6	50-60	DS	100				GLV	NC													
146	300	3	1	0-10	DS	89	15			GLV	EPM													
146	301	3	1	0-10	WS	11	15			GLV	EPM													
146	302	3	2	10-20	DS	89	15			GLV	EPM			1										
146	303	3	2	10-20	WS	11	15			GLV	EPM													
146	304	3	3	20-30	DS	89	15			ORF	IMM		6	46		1		1		3				2
146	305	3	3	20-30	WS	11	15			ORF	IMM			5										
146	306	3	4	30-40	DS	89	15			ORF	IMM		3	20										3
146	307	3	4	30-40	WS	11	15			ORF	IMM			3										
146	308	3	5	40-45	DS	89	15			IRF	IMM		1	5				1						
146	309	3	5	40-45	WS	11	15			IRF	IMM													
146	310	3	6	45-55	DS	89	15			IRF	IMM		2	8				1						1
146	311	3	6	45-55	WS	11	15			IRF	IMM													
146	312	3	7	55-60	DS	89	15			IRF	IMM		2	5		1		1						1
146	313	3	7	55-60	WS	11	15			IRF	IMM		1	2				1						
146	314	3	8	60-70	DS	89	15			IRF	IMM		3	15				1						2
146	315	3	8	60-70	WS	11	15			IRF	IMM			3										
146	316	3	9	70-80	DS	89	15			RFL	IMM		9	17				2		3				4
146	317	3	9	70-80	WS	11	15			RFL	IMM		2	3										2
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM													
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM													
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM													
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM													
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM													
146	401	4	1	0-10	DS	100				GLV	EPM													
146	402	4	2	10-20	DS	100				GLV	EPM													
146	403	4	3	20-30	DS	100				GLV	IMM													
146	404	4	4	30-40	DS	100				GLV	IMM													
146	405	4	5	40-50	DS	100				GLV	EPM													
146	406	4	6	50-60	DS	100				GLV	NC													

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
146	500	5	1	0-10	DS	89	11			GLV	EPM													
146	501	5	1	0-10	WS	11	11			GLV	EPM													
146	502	5	2	10-20	DS	89	11			GLV	UKN			1										
146	503	5	2	10-20	WS	11	11			GLV	UKN													
146	504	5	3	20-30	DS	89	11			GLV	EPM													
146	505	5	3	20-30	WS	11	11			GLV	EPM													
146	506	5	4	30-40	DS	89	11			GLV	EPM			2										
146	507	5	4	30-40	WS	11	11			GLV	EPM													
146	508	5	5	40-50	DS	89	11			GLV	EPM			1										
146	509	5	5	40-50	WS	11	11			GLV	EPM			1										
146	510	5	6	50-60	DS	89	11			ORF	IMM			17										
146	511	5	6	50-60	WS	11	11			ORF	IMM			3										
146	512	5	7	60-70	DS	89	11			ORF	IMM		1	27			1			1				
146	513	5	7	60-70	WS	11	11			ORF	IMM			6										
146	514	5	8	70-80	DS	89	11			ORF	IMM		7	87		2		2		3			1	1
146	515	5	8	70-80	WS	11	11			ORF	IMM		3	80			2	2						1
146	516	5	9	80-90	DS	89	11			ORF	IMM		1	30			1	1						
146	517	5	9	80-90	WS	11	11			ORF	IMM			3										
146	518	5	10	90-100	DS	89	11			IRF	IMM		1	2				1						
146	519	5	10	90-100	WS	11	11			IRF	IMM			1										
146	520	5	11	100-110	DS	89	11			IRF	IMM		7	16	1			2		1			2	2
146	521	5	11	100-110	WS	11	11			IRF	IMM	1	8	13				5	2	1				1
146	522	5	12	110-125	DS	89	11			RFL	IMM		23	57	2	1	1	4	3	9			1	6
146	523	5	12	110-125	WS	11	11			RFL	IMM		5	13						2				3
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM		2	4				1						1
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM													
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM		13	34			1	1	2	8				2
146	600	6	1	0-10	AL	NA	11			OTR	NA													
146	601	6	1	0-10	AL	NA	11			OTR	NA													
146	602	6	2	10-20	DS	89	11			GLV	EPM													
146	603	6	2	10-20	WS	11	11			GLV	EPM													
146	604	6	3	20-30	DS	89	11			GLV	EPM													
146	605	6	3	20-30	WS	11	11			GLV	EPM													
146	606	6	4	30-40	DS	89	11			GLV	EPM			1										
146	607	6	4	30-40	WS	11	11			GLV	EPM													
146	608	6	5	40-50	DS	89	11			GLV	EPM			2										
146	609	6	5	40-50	WS	11	11			GLV	EPM													
146	610	6	6	50-60	DS	89	11			ORF	IMM			9										
146	611	6	6	50-60	WS	11	11			ORF	IMM			2			1							
146	612	6	7	60-70	DS	89	11			ORF	IMM			18										
146	613	6	7	60-70	WS	11	11			ORF	IMM			3										
146	614	6	8	70-80	DS	89	11			ORF	IMM		2	32				1		1				
146	615	6	8	70-80	WS	11	11			ORF	IMM			6										
146	616	6	9	80-90	DS	89	11			ORF	IMM		2	30		1								2
146	617	6	9	80-90	WS	11	11			ORF	IMM			3										
146	618	6	10	90-100	DS	89	11			IRF	IMM		2	12		1								2
146	619	6	10	90-100	WS	11	11			IRF	IMM													

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
146	620	6	11	100-110	DS	89	11			IRF	IMM		1	12										1
146	621	6	11	100-110	WS	11	11			IRF	IMM		1	1						1				
146	622	6	12	110-125	DS	89	11			RFL	IMM		35	59				13	3	11				8
146	623	6	12	110-125	WS	11	11			RFL	IMM			3										
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM													
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM													
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM													
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM		3	21						1				2
146	700	7	1	0-10	AL	NA	11			OTR	NA													
146	701	7	1	0-10	AL	NA	11			OTR	NA													
146	702	7	2	10-20	DS	89	11			GLV	EPM													
146	703	7	2	10-20	WS	11	11			GLV	EPM													
146	704	7	3	20-30	DS	89	11			GLV	UKN			4										
146	705	7	3	20-30	WS	11	11			GLV	UKN													
146	706	7	4	30-40	DS	89	11			GLV	EPM													
146	707	7	4	30-40	WS	11	11			GLV	EPM													
146	708	7	5	40-50	DS	89	11			GLV	EPM													
146	709	7	5	40-50	WS	11	11			GLV	EPM			1			1							
146	710	7	6	50-60	DS	89	11			ORF	IMM			5										
146	711	7	6	50-60	WS	11	11			ORF	IMM													
146	712	7	7	60-70	DS	89	11			ORF	IMM			6										
146	713	7	7	60-70	WS	11	11			ORF	IMM			2										
146	714	7	8	70-80	DS	89	11			ORF	IMM			14										
146	715	7	8	70-80	WS	11	11			ORF	IMM			5										
146	716	7	9	80-90	DS	89	11			ORF	IMM			64										
146	717	7	9	80-90	WS	11	11			ORF	IMM		1	22				1						
146	718	7	10	90-100	DS	89	11			IRF	IMM		1	5			1			1				
146	719	7	10	90-100	WS	11	11			IRF	IMM													
146	720	7	11	100-110	DS	89	11			IRF	IMM			2										
146	721	7	11	100-110	WS	11	11			IRF	IMM			1										
146	722	7	12	110-128	DS	89	11			RFL	IMM	2	1	10		1	2	2		1				
146	723	7	12	110-128	WS	11	11			RFL	IMM		4	6				1						3
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM													
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM													
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM		11	51	1	2	1	5	3	2				1
146	800	8	1	0-10	AL	NA	11			OTR	NA													
146	801	8	1	0-10	AL	NA	11			OTR	NA													
146	802	8	2	10-20	DS	89	11			GLV	EPM			1										
146	803	8	2	10-20	WS	11	11			GLV	EPM		1	1										1
146	804	8	3	20-30	DS	89	11			GLV	EPM			2										
146	805	8	3	20-30	WS	11	11			GLV	EPM			1										
146	806	8	4	30-40	DS	89	11			GLV	EPM			1										
146	807	8	4	30-40	WS	11	11			GLV	EPM													
146	808	8	5	40-50	DS	89	11			GLV	EPM													
146	809	8	5	40-50	WS	11	11			GLV	EPM													
146	810	8	6	50-60	DS	89	11			ORF	IMM			3										

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
146	811	8	6	50-60	WS	11	11			ORF	IMM			6										
146	812	8	7	60-70	DS	89	11			ORF	IMM			11										
146	813	8	7	60-70	WS	11	11			ORF	IMM			1										
146	814	8	8	70-80	DS	89	11			ORF	IMM			7										
146	815	8	8	70-80	WS	11	11			ORF	IMM			2										
146	816	8	9	80-90	DS	89	11			ORF	IMM			17										
146	817	8	9	80-90	WS	11	11			ORF	IMM			8			1							
146	818	8	10	90-100	DS	89	11			IRF	IMM			5										
146	819	8	10	90-100	WS	11	11			IRF	IMM			1										
146	820	8	11	100-110	DS	89	11			IRF	IMM			2										
146	821	8	11	100-110	WS	11	11			IRF	IMM			1										
146	822	8	12	110-125	DS	89	11			RFL	IMM		1	8										1
146	823	8	12	110-125	WS	11	11			RFL	IMM													
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM													
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM													
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM													
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM		6	23				4		1				1
146	900	9	1	0-10	DS	89	15			GLV	EPM													
146	901	9	1	0-10	WS	11	15			GLV	EPM													
146	902	9	2	10-20	DS	89	15			GLV	EPM													
146	903	9	2	10-20	WS	11	15			GLV	EPM													
146	904	9	3	20-30	DS	89	15			ORF	IMM		4	34			1	2		1				1
146	905	9	3	20-30	WS	11	15			ORF	IMM			4										
146	906	9	4	30-40	DS	89	15			ORF	IMM		1	10										1
146	907	9	4	30-40	WS	11	15			ORF	IMM													
146	908	9	5	40-45	DS	89	15			IRF	IMM		1	5										1
146	909	9	5	40-45	WS	11	15			IRF	IMM		1	1				1						
146	910	9	6	45-55	DS	89	15			IRF	IMM		5	19				5						
146	911	9	6	45-55	WS	11	15			IRF	IMM													
146	912	9	7	55-65	DS	89	15			IRF	IMM	2	8	14				6		2				2
146	913	9	7	55-65	WS	11	15			IRF	IMM			1										
146	914	9	8	65-70	DS	89	15			IRF	IMM		4	10		2		1		2				1
146	915	9	8	65-70	WS	11	15			IRF	IMM													
146	916	9	9	70-75	DS	89	15			RFL	IMM		4	10	1	1		1		2		1		
146	917	9	9	70-75	WS	11	15			RFL	IMM		1	1						1				
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM													
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM													
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM													
146	921	9	8	66-69	NS	100	15	106	BM	FLR	IMM													
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA													

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND

TOTALS

G1BS	5.00
G2BS	208.00
G3BS	1,197.00
G1RM	5.00
G2RM	14.00
G3RM	14.00
PLAINBS	72.00
SIMPLBS	13.00
CORDBS	61.00
CHECKBS	0.00
BRUSHBS	1.00
DECORBS	4.00
INDETBS	62.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
146	101	1	1	0-10	DS	100				GLV	MIX									
146	102	1	2	10-20	DS	100				GLV	EPM									
146	103	1	3	20-30	DS	100				GLV	EPM			2						
146	104	1	4	30-40	DS	100				GLV	EPM									
146	105	1	5	40-50	DS	100				GLV	EPM			1						
146	106	1	6	50-60	DS	100				GLV	IMM		1	10						
146	107	1	7	60-70	DS	100				GLV	IMM		1	2						
146	108	1	8	70-80	DS	100				GLV	IMM	69	29	11			4			
146	109	1	9	80-90	DS	100				GLV	NC									
146	110	1	10	90-100	DS	100				GLV	NC									
146	201	2	1	0-10	DS	100				GLV	EPM									
146	202	2	2	10-20	DS	100				GLV	IMM		6	6						
146	203	2	3	20-30	DS	100				GLV	IMM		1	8						
146	204	2	4	30-40	DS	100				GLV	IMM		11	16						
146	205	2	5	40-50	DS	100				GLV	EPM			1						
146	206	2	6	50-60	DS	100				GLV	NC									
146	300	3	1	0-10	DS	89	15			GLV	EPM									
146	301	3	1	0-10	WS	11	15			GLV	EPM									
146	302	3	2	10-20	DS	89	15			GLV	EPM			2						
146	303	3	2	10-20	WS	11	15			GLV	EPM									
146	304	3	3	20-30	DS	89	15			ORF	IMM		10	23			2			
146	305	3	3	20-30	WS	11	15			ORF	IMM		2	3			1			2
146	306	3	4	30-40	DS	89	15			ORF	IMM		4	15		4	4	3		
146	307	3	4	30-40	WS	11	15			ORF	IMM		15	1				1		3
146	308	3	5	40-45	DS	89	15			IRF	IMM		14	7		11	2			
146	309	3	5	40-45	WS	11	15			IRF	IMM			1						1
146	310	3	6	45-55	DS	89	15			IRF	IMM		10	6		2	1			
146	311	3	6	45-55	WS	11	15			IRF	IMM		2	1			1			11
146	312	3	7	55-60	DS	89	15			IRF	IMM		16	9			2	1		
146	313	3	7	55-60	WS	11	15			IRF	IMM		2	1		1	1			2
146	314	3	8	60-70	DS	89	15			IRF	IMM		6	12		4	6	2		
146	315	3	8	60-70	WS	11	15			IRF	IMM		7	3			1			
146	316	3	9	70-80	DS	89	15			RFL	IMM		13	15		8	7			
146	317	3	9	70-80	WS	11	15			RFL	IMM			13			11			4
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM									
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM									
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM									
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM									
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM									
146	401	4	1	0-10	DS	100				GLV	EPM									
146	402	4	2	10-20	DS	100				GLV	EPM		1							
146	403	4	3	20-30	DS	100				GLV	IMM			1						
146	404	4	4	30-40	DS	100				GLV	IMM			1						
146	405	4	5	40-50	DS	100				GLV	EPM			1						
146	406	4	6	50-60	DS	100				GLV	NC									

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
146	500	5	1	0-10	DS	89	11			GLV	EPM									
146	501	5	1	0-10	WS	11	11			GLV	EPM									
146	502	5	2	10-20	DS	89	11			GLV	UKN	40						1		
146	503	5	2	10-20	WS	11	11			GLV	UKN									
146	504	5	3	20-30	DS	89	11			GLV	EPM									
146	505	5	3	20-30	WS	11	11			GLV	EPM									
146	506	5	4	30-40	DS	89	11			GLV	EPM			1			1			
146	507	5	4	30-40	WS	11	11			GLV	EPM									
146	508	5	5	40-50	DS	89	11			GLV	EPM			1			1			
146	509	5	5	40-50	WS	11	11			GLV	EPM									
146	510	5	6	50-60	DS	89	11			ORF	IMM		2	4		2	1	1		
146	511	5	6	50-60	WS	11	11			ORF	IMM			1			1			
146	512	5	7	60-70	DS	89	11			ORF	IMM		6	17			3			
146	513	5	7	60-70	WS	11	11			ORF	IMM			9			1		3	
146	514	5	8	70-80	DS	89	11			ORF	IMM	27	32	76		1	9	2		
146	515	5	8	70-80	WS	11	11			ORF	IMM	40	30	48		4	3		6	
146	516	5	9	80-90	DS	89	11			ORF	IMM		15	25			2			
146	517	5	9	80-90	WS	11	11			ORF	IMM		4	4					4	
146	518	5	10	90-100	DS	89	11			IRF	IMM		3	10		3	9			
146	519	5	10	90-100	WS	11	11			IRF	IMM		4	1		4	1		1	
146	520	5	11	100-110	DS	89	11			IRF	IMM	40	136	55	19	97	50	3		
146	521	5	11	100-110	WS	11	11			IRF	IMM	32	140	39	32	122	36	11	10	
146	522	5	12	110-125	DS	89	11			RFL	IMM	145	499	127	85	442	127	25	3	
146	523	5	12	110-125	WS	11	11			RFL	IMM	26	51	21	17	39	16		2	
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM		14	8		14	8		1	
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM									
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM		71	20		60	19		4	
146	600	6	1	0-10	AL	NA	11			OTR	NA									
146	601	6	1	0-10	AL	NA	11			OTR	NA									
146	602	6	2	10-20	DS	89	11			GLV	EPM									
146	603	6	2	10-20	WS	11	11			GLV	EPM									
146	604	6	3	20-30	DS	89	11			GLV	EPM									
146	605	6	3	20-30	WS	11	11			GLV	EPM									
146	606	6	4	30-40	DS	89	11			GLV	EPM									
146	607	6	4	30-40	WS	11	11			GLV	EPM									
146	608	6	5	40-50	DS	89	11			GLV	EPM			1			1			
146	609	6	5	40-50	WS	11	11			GLV	EPM								2	
146	610	6	6	50-60	DS	89	11			ORF	IMM		1	4			2			
146	611	6	6	50-60	WS	11	11			ORF	IMM			2			1		5	
146	612	6	7	60-70	DS	89	11			ORF	IMM		6	10			2			
146	613	6	7	60-70	WS	11	11			ORF	IMM			4			1		2	
146	614	6	8	70-80	DS	89	11			ORF	IMM	3	8	16			4	2		
146	615	6	8	70-80	WS	11	11			ORF	IMM			4			3		6	
146	616	6	9	80-90	DS	89	11			ORF	IMM	135	7	25			6	3		
146	617	6	9	80-90	WS	11	11			ORF	IMM			2			1		7	
146	618	6	10	90-100	DS	89	11			IRF	IMM	36	40	18		40	18			
146	619	6	10	90-100	WS	11	11			IRF	IMM		7	1		7	1			

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
146	620	6	11	100-110	DS	89	11			IRF	IMM		38	29		38	29			
146	621	6	11	100-110	WS	11	11			IRF	IMM		1	3		1	3		3	
146	622	6	12	110-125	DS	89	11			RFL	IMM	41	108	59	41	108	58	2		
146	623	6	12	110-125	WS	11	11			RFL	IMM	13	19	4	13	19	3	1	1	
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM									
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM									
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM									
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	12	28	18	12	28	17	1		
146	700	7	1	0-10	AL	NA	11			OTR	NA									
146	701	7	1	0-10	AL	NA	11			OTR	NA									
146	702	7	2	10-20	DS	89	11			GLV	EPM									
146	703	7	2	10-20	WS	11	11			GLV	EPM									
146	704	7	3	20-30	DS	89	11			GLV	UKN	363	31	6				3		
146	705	7	3	20-30	WS	11	11			GLV	UKN			1			1			
146	706	7	4	30-40	DS	89	11			GLV	EPM									
146	707	7	4	30-40	WS	11	11			GLV	EPM									
146	708	7	5	40-50	DS	89	11			GLV	EPM									
146	709	7	5	40-50	WS	11	11			GLV	EPM									
146	710	7	6	50-60	DS	89	11			ORF	IMM			2			1	1		
146	711	7	6	50-60	WS	11	11			ORF	IMM			1			1			
146	712	7	7	60-70	DS	89	11			ORF	IMM			5			2			
146	713	7	7	60-70	WS	11	11			ORF	IMM			1			1		1	
146	714	7	8	70-80	DS	89	11			ORF	IMM		1	7			2			
146	715	7	8	70-80	WS	11	11			ORF	IMM		25	3		1	1			
146	716	7	9	80-90	DS	89	11			ORF	IMM	5	30	50		10	7	1		
146	717	7	9	80-90	WS	11	11			ORF	IMM		6	14		2	2		9	
146	718	7	10	90-100	DS	89	11			IRF	IMM			5			2			
146	719	7	10	90-100	WS	11	11			IRF	IMM			1			1			
146	720	7	11	100-110	DS	89	11			IRF	IMM		10	8		7	6			
146	721	7	11	100-110	WS	11	11			IRF	IMM		4	2		2	1			
146	722	7	12	110-128	DS	89	11			RFL	IMM	27	93	30	17	81	30	3		
146	723	7	12	110-128	WS	11	11			RFL	IMM		49	31		34	31	1	12	
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM									
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM									
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	61	181	116	61	181	116	7		4
146	800	8	1	0-10	AL	NA	11			OTR	NA									
146	801	8	1	0-10	AL	NA	11			OTR	NA									
146	802	8	2	10-20	DS	89	11			GLV	EPM			1						
146	803	8	2	10-20	WS	11	11			GLV	EPM									
146	804	8	3	20-30	DS	89	11			GLV	EPM			1						
146	805	8	3	20-30	WS	11	11			GLV	EPM									
146	806	8	4	30-40	DS	89	11			GLV	EPM									
146	807	8	4	30-40	WS	11	11			GLV	EPM									
146	808	8	5	40-50	DS	89	11			GLV	EPM									
146	809	8	5	40-50	WS	11	11			GLV	EPM								1	
146	810	8	6	50-60	DS	89	11			ORF	IMM			1			1			

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
146	811	8	6	50-60	WS	11	11			ORF	IMM			2			1			
146	812	8	7	60-70	DS	89	11			ORF	IMM			4			1			
146	813	8	7	60-70	WS	11	11			ORF	IMM			1			1			
146	814	8	8	70-80	DS	89	11			ORF	IMM			5			1			
146	815	8	8	70-80	WS	11	11			ORF	IMM			2			1		5	
146	816	8	9	80-90	DS	89	11			ORF	IMM		6	11		1	3	2		
146	817	8	9	80-90	WS	11	11			ORF	IMM	216		8			2	1	4	1
146	818	8	10	90-100	DS	89	11			IRF	IMM	17	3	7		3	4	1		
146	819	8	10	90-100	WS	11	11			IRF	IMM		2	1		2	1			
146	820	8	11	100-110	DS	89	11			IRF	IMM		6	1		6	1			
146	821	8	11	100-110	WS	11	11			IRF	IMM			1			1		9	
146	822	8	12	110-125	DS	89	11			RFL	IMM		21	36		21	36	1		
146	823	8	12	110-125	WS	11	11			RFL	IMM		3	1		3	1		4	
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM									
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM									
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM									
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	11	56	44	11	56	44	1		2
146	900	9	1	0-10	DS	89	15			GLV	EPM									
146	901	9	1	0-10	WS	11	15			GLV	EPM									
146	902	9	2	10-20	DS	89	15			GLV	EPM									
146	903	9	2	10-20	WS	11	15			GLV	EPM								1	
146	904	9	3	20-30	DS	89	15			ORF	IMM		1	19			1			
146	905	9	3	20-30	WS	11	15			ORF	IMM		2	2			1			
146	906	9	4	30-40	DS	89	15			ORF	IMM		8	23			4			
146	907	9	4	30-40	WS	11	15			ORF	IMM			1			1			
146	908	9	5	40-45	DS	89	15			IRF	IMM		8	6		4	1			
146	909	9	5	40-45	WS	11	15			IRF	IMM									
146	910	9	6	45-55	DS	89	15			IRF	IMM	23	20	23	14	14	15			
146	911	9	6	45-55	WS	11	15			IRF	IMM			2			1			
146	912	9	7	55-65	DS	89	15			IRF	IMM	38	30	30	20	11	19	1		
146	913	9	7	55-65	WS	11	15			IRF	IMM		4	3		2	1			
146	914	9	8	65-70	DS	89	15			IRF	IMM		22	13		12	10	2		
146	915	9	8	65-70	WS	11	15			IRF	IMM			1			1			
146	916	9	9	70-75	DS	89	15			RFL	IMM	13	42	34	13	42	28			21
146	917	9	9	70-75	WS	11	15			RFL	IMM		2	3		2	3		1	
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM									
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM									
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM									
146	921	9	8	66-69	NS	100	15	106	BM	FLR	IMM									
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA									

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB

TOTALS

G1BN	1,433.00
G2BN	2,087.00
G3BN	1,409.00
G1BB	355.00
G2BB	1,556.00
G3BB	871.00
G13IB	84.00
G45IB	130.00
G15MB	28.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
146	101	1	1	0-10	DS	100				GLV	MIX								
146	102	1	2	10-20	DS	100				GLV	EPM								
146	103	1	3	20-30	DS	100				GLV	EPM							2	
146	104	1	4	30-40	DS	100				GLV	EPM								
146	105	1	5	40-50	DS	100				GLV	EPM				2				1
146	106	1	6	50-60	DS	100				GLV	IMM				4				2
146	107	1	7	60-70	DS	100				GLV	IMM	1							2
146	108	1	8	70-80	DS	100				GLV	IMM	1			2				1
146	109	1	9	80-90	DS	100				GLV	NC								
146	110	1	10	90-100	DS	100				GLV	NC								
146	201	2	1	0-10	DS	100				GLV	EPM				1			5	2
146	202	2	2	10-20	DS	100				GLV	IMM				1		776	3	16
146	203	2	3	20-30	DS	100				GLV	IMM	5			1			18	2
146	204	2	4	30-40	DS	100				GLV	IMM								1
146	205	2	5	40-50	DS	100				GLV	EPM	1							
146	206	2	6	50-60	DS	100				GLV	NC								
146	300	3	1	0-10	DS	89	15			GLV	EPM	1							
146	301	3	1	0-10	WS	11	15			GLV	EPM								
146	302	3	2	10-20	DS	89	15			GLV	EPM				3				3
146	303	3	2	10-20	WS	11	15			GLV	EPM								
146	304	3	3	20-30	DS	89	15			ORF	IMM	2		1	10		187	65	13
146	305	3	3	20-30	WS	11	15			ORF	IMM				2	24		8	5
146	306	3	4	30-40	DS	89	15			ORF	IMM	2			6		40	26	9
146	307	3	4	30-40	WS	11	15			ORF	IMM				1	20			
146	308	3	5	40-45	DS	89	15			IRF	IMM				1		1736		1
146	309	3	5	40-45	WS	11	15			IRF	IMM				1	5			
146	310	3	6	45-55	DS	89	15			IRF	IMM				2				3
146	311	3	6	45-55	WS	11	15			IRF	IMM					6			1
146	312	3	7	55-60	DS	89	15			IRF	IMM				5				1
146	313	3	7	55-60	WS	11	15			IRF	IMM					2		9	2
146	314	3	8	60-70	DS	89	15			IRF	IMM	1						4	8
146	315	3	8	60-70	WS	11	15			IRF	IMM	1				5			1
146	316	3	9	70-80	DS	89	15			RFL	IMM	1		1	8		2632	10	4
146	317	3	9	70-80	WS	11	15			RFL	IMM	1			6	13			1
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM								
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM								
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM								
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM								
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM								
146	401	4	1	0-10	DS	100				GLV	EPM								
146	402	4	2	10-20	DS	100				GLV	EPM								1
146	403	4	3	20-30	DS	100				GLV	IMM							9	4
146	404	4	4	30-40	DS	100				GLV	IMM							5	
146	405	4	5	40-50	DS	100				GLV	EPM								2
146	406	4	6	50-60	DS	100				GLV	NC								

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
146	500	5	1	0-10	DS	89	11			GLV	EPM								
146	501	5	1	0-10	WS	11	11			GLV	EPM								
146	502	5	2	10-20	DS	89	11			GLV	UKN								
146	503	5	2	10-20	WS	11	11			GLV	UKN								
146	504	5	3	20-30	DS	89	11			GLV	EPM								
146	505	5	3	20-30	WS	11	11			GLV	EPM								
146	506	5	4	30-40	DS	89	11			GLV	EPM	2			2				
146	507	5	4	30-40	WS	11	11			GLV	EPM								
146	508	5	5	40-50	DS	89	11			GLV	EPM			1	2				
146	509	5	5	40-50	WS	11	11			GLV	EPM								
146	510	5	6	50-60	DS	89	11			ORF	IMM	1			2				1
146	511	5	6	50-60	WS	11	11			ORF	IMM					20			
146	512	5	7	60-70	DS	89	11			ORF	IMM			3	18			4	2
146	513	5	7	60-70	WS	11	11			ORF	IMM				3	47			2
146	514	5	8	70-80	DS	89	11			ORF	IMM	5		5	68		31	20	20
146	515	5	8	70-80	WS	11	11			ORF	IMM	3		2	42	243	70	4	14
146	516	5	9	80-90	DS	89	11			ORF	IMM	1			22		707		7
146	517	5	9	80-90	WS	11	11			ORF	IMM	1				25			2
146	518	5	10	90-100	DS	89	11			IRF	IMM				8				1
146	519	5	10	90-100	WS	11	11			IRF	IMM								
146	520	5	11	100-110	DS	89	11			IRF	IMM	3		1	17			8	1
146	521	5	11	100-110	WS	11	11			IRF	IMM			2	1	19			2
146	522	5	12	110-125	DS	89	11			RFL	IMM	15		5	17				7
146	523	5	12	110-125	WS	11	11			RFL	IMM					6			
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM	1			1	8			2
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM								
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	3		7	17	54		4	1
146	600	6	1	0-10	AL	NA	11			OTR	NA								
146	601	6	1	0-10	AL	NA	11			OTR	NA								
146	602	6	2	10-20	DS	89	11			GLV	EPM								2
146	603	6	2	10-20	WS	11	11			GLV	EPM				1				
146	604	6	3	20-30	DS	89	11			GLV	EPM								
146	605	6	3	20-30	WS	11	11			GLV	EPM								
146	606	6	4	30-40	DS	89	11			GLV	EPM				2				1
146	607	6	4	30-40	WS	11	11			GLV	EPM								
146	608	6	5	40-50	DS	89	11			GLV	EPM				2		591		3
146	609	6	5	40-50	WS	11	11			GLV	EPM					2			
146	610	6	6	50-60	DS	89	11			ORF	IMM	1			2		3825		9
146	611	6	6	50-60	WS	11	11			ORF	IMM					17			1
146	612	6	7	60-70	DS	89	11			ORF	IMM			1	5			1	1
146	613	6	7	60-70	WS	11	11			ORF	IMM				2	33			
146	614	6	8	70-80	DS	89	11			ORF	IMM	2		1	11		853	6	4
146	615	6	8	70-80	WS	11	11			ORF	IMM				2	44	1397		2
146	616	6	9	80-90	DS	89	11			ORF	IMM	2		2	22		4439	11	18
146	617	6	9	80-90	WS	11	11			ORF	IMM			1	6	23	477		1
146	618	6	10	90-100	DS	89	11			IRF	IMM				5				3
146	619	6	10	90-100	WS	11	11			IRF	IMM					5			

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
146	620	6	11	100-110	DS	89	11			IRF	IMM			3	13				2
146	621	6	11	100-110	WS	11	11			IRF	IMM	1			3	11			
146	622	6	12	110-125	DS	89	11			RFL	IMM	1	1	7	19		259	14	16
146	623	6	12	110-125	WS	11	11			RFL	IMM	1			1	9			
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM								
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM								
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM								
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	3		4	13	43	2422	20	4
146	700	7	1	0-10	AL	NA	11			OTR	NA								
146	701	7	1	0-10	AL	NA	11			OTR	NA								
146	702	7	2	10-20	DS	89	11			GLV	EPM								
146	703	7	2	10-20	WS	11	11			GLV	EPM					1			
146	704	7	3	20-30	DS	89	11			GLV	UKN			1	2				
146	705	7	3	20-30	WS	11	11			GLV	UKN				1	4			
146	706	7	4	30-40	DS	89	11			GLV	EPM								
146	707	7	4	30-40	WS	11	11			GLV	EPM								
146	708	7	5	40-50	DS	89	11			GLV	EPM								
146	709	7	5	40-50	WS	11	11			GLV	EPM								1
146	710	7	6	50-60	DS	89	11			ORF	IMM				1		1929	11	2
146	711	7	6	50-60	WS	11	11			ORF	IMM								
146	712	7	7	60-70	DS	89	11			ORF	IMM				5				1
146	713	7	7	60-70	WS	11	11			ORF	IMM					9			
146	714	7	8	70-80	DS	89	11			ORF	IMM				7				1
146	715	7	8	70-80	WS	11	11			ORF	IMM				2	35			
146	716	7	9	80-90	DS	89	11			ORF	IMM	1			41		90	3	19
146	717	7	9	80-90	WS	11	11			ORF	IMM				4	56			9
146	718	7	10	90-100	DS	89	11			IRF	IMM	1			5			3	1
146	719	7	10	90-100	WS	11	11			IRF	IMM					2			
146	720	7	11	100-110	DS	89	11			IRF	IMM				1				
146	721	7	11	100-110	WS	11	11			IRF	IMM				1	3			
146	722	7	12	110-128	DS	89	11			RFL	IMM	1	1	2	10				2
146	723	7	12	110-128	WS	11	11			RFL	IMM	4			2	19	118	11	2
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM								
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM								
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	8	1	12	117		4767	19	60
146	800	8	1	0-10	AL	NA	11			OTR	NA								
146	801	8	1	0-10	AL	NA	11			OTR	NA								
146	802	8	2	10-20	DS	89	11			GLV	EPM								
146	803	8	2	10-20	WS	11	11			GLV	EPM				2				
146	804	8	3	20-30	DS	89	11			GLV	EPM				1				1
146	805	8	3	20-30	WS	11	11			GLV	EPM					1			
146	806	8	4	30-40	DS	89	11			GLV	EPM								
146	807	8	4	30-40	WS	11	11			GLV	EPM								
146	808	8	5	40-50	DS	89	11			GLV	EPM								3
146	809	8	5	40-50	WS	11	11			GLV	EPM					2			1
146	810	8	6	50-60	DS	89	11			ORF	IMM						1016	3	2

SNO	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
146	811	8	6	50-60	WS	11	11			ORF	IMM	1				13			
146	812	8	7	60-70	DS	89	11			ORF	IMM				4				6
146	813	8	7	60-70	WS	11	11			ORF	IMM					2			1
146	814	8	8	70-80	DS	89	11			ORF	IMM				2				1
146	815	8	8	70-80	WS	11	11			ORF	IMM				3	15			
146	816	8	9	80-90	DS	89	11			ORF	IMM	2		1	4			18	5
146	817	8	9	80-90	WS	11	11			ORF	IMM				4	41			1
146	818	8	10	90-100	DS	89	11			IRF	IMM	2			2		285		3
146	819	8	10	90-100	WS	11	11			IRF	IMM					3	581		
146	820	8	11	100-110	DS	89	11			IRF	IMM				2				3
146	821	8	11	100-110	WS	11	11			IRF	IMM				1	4			
146	822	8	12	110-125	DS	89	11			RFL	IMM	4			39			4	3
146	823	8	12	110-125	WS	11	11			RFL	IMM				3	8			
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM								
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM								
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM								
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	3		9	84		4522	106	68
146	900	9	1	0-10	DS	89	15			GLV	EPM								
146	901	9	1	0-10	WS	11	15			GLV	EPM					1			
146	902	9	2	10-20	DS	89	15			GLV	EPM								
146	903	9	2	10-20	WS	11	15			GLV	EPM								
146	904	9	3	20-30	DS	89	15			ORF	IMM	3			11			36	4
146	905	9	3	20-30	WS	11	15			ORF	IMM					4			1
146	906	9	4	30-40	DS	89	15			ORF	IMM			1	2		9209	13	14
146	907	9	4	30-40	WS	11	15			ORF	IMM					4		16	2
146	908	9	5	40-45	DS	89	15			IRF	IMM						4784	20	5
146	909	9	5	40-45	WS	11	15			IRF	IMM					2			1
146	910	9	6	45-55	DS	89	15			IRF	IMM	2			1		4798	52	16
146	911	9	6	45-55	WS	11	15			IRF	IMM					3	179	2	2
146	912	9	7	55-65	DS	89	15			IRF	IMM	1			1				7
146	913	9	7	55-65	WS	11	15			IRF	IMM					1			
146	914	9	8	65-70	DS	89	15			IRF	IMM	2			2		2508	15	1
146	915	9	8	65-70	WS	11	15			IRF	IMM					1			1
146	916	9	9	70-75	DS	89	15			RFL	IMM	3			1			4	3
146	917	9	9	70-75	WS	11	15			RFL	IMM	1				5			1
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM								
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM								
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM								
146	921	9	8	66-69	NS	100	15	106	BM	FLR	IMM								
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA								

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR

TOTALS

STL	102.00
G1FK	3.00
G2FK	73.00
G3FK	753.00
G4FK	923.00
G1FCR	55,228.00
G2FCR	592.00
G3FCR	469.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
146	101	1	1	0-10	DS	100				GLV	MIX														
146	102	1	2	10-20	DS	100				GLV	EPM														
146	103	1	3	20-30	DS	100				GLV	EPM														
146	104	1	4	30-40	DS	100				GLV	EPM														
146	105	1	5	40-50	DS	100				GLV	EPM														
146	106	1	6	50-60	DS	100				GLV	IMM														
146	107	1	7	60-70	DS	100				GLV	IMM														
146	108	1	8	70-80	DS	100				GLV	IMM														
146	109	1	9	80-90	DS	100				GLV	NC														
146	110	1	10	90-100	DS	100				GLV	NC														
146	201	2	1	0-10	DS	100				GLV	EPM														
146	202	2	2	10-20	DS	100				GLV	IMM														
146	203	2	3	20-30	DS	100				GLV	IMM														
146	204	2	4	30-40	DS	100				GLV	IMM														
146	205	2	5	40-50	DS	100				GLV	EPM														
146	206	2	6	50-60	DS	100				GLV	NC														
146	300	3	1	0-10	DS	89	15			GLV	EPM														2
146	301	3	1	0-10	WS	11	15			GLV	EPM														
146	302	3	2	10-20	DS	89	15			GLV	EPM														1
146	303	3	2	10-20	WS	11	15			GLV	EPM														
146	304	3	3	20-30	DS	89	15			ORF	IMM					1									1
146	305	3	3	20-30	WS	11	15			ORF	IMM														
146	306	3	4	30-40	DS	89	15			ORF	IMM														2
146	307	3	4	30-40	WS	11	15			ORF	IMM			1											
146	308	3	5	40-45	DS	89	15			IRF	IMM						2								6
146	309	3	5	40-45	WS	11	15			IRF	IMM														1
146	310	3	6	45-55	DS	89	15			IRF	IMM			4			1							2	3
146	311	3	6	45-55	WS	11	15			IRF	IMM														3
146	312	3	7	55-60	DS	89	15			IRF	IMM													3	2
146	313	3	7	55-60	WS	11	15			IRF	IMM														1
146	314	3	8	60-70	DS	89	15			IRF	IMM			4										2	14
146	315	3	8	60-70	WS	11	15			IRF	IMM													2	6
146	316	3	9	70-80	DS	89	15			RFL	IMM													3	7
146	317	3	9	70-80	WS	11	15			RFL	IMM													1	12
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM														
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM														
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM														
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM														
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM														
146	401	4	1	0-10	DS	100				GLV	EPM														
146	402	4	2	10-20	DS	100				GLV	EPM														
146	403	4	3	20-30	DS	100				GLV	IMM														
146	404	4	4	30-40	DS	100				GLV	IMM														
146	405	4	5	40-50	DS	100				GLV	EPM														
146	406	4	6	50-60	DS	100				GLV	NC														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
146	500	5	1	0-10	DS	89	11			GLV	EPM														1
146	501	5	1	0-10	WS	11	11			GLV	EPM														
146	502	5	2	10-20	DS	89	11			GLV	UKN														
146	503	5	2	10-20	WS	11	11			GLV	UKN														
146	504	5	3	20-30	DS	89	11			GLV	EPM														
146	505	5	3	20-30	WS	11	11			GLV	EPM														
146	506	5	4	30-40	DS	89	11			GLV	EPM						1								
146	507	5	4	30-40	WS	11	11			GLV	EPM														1
146	508	5	5	40-50	DS	89	11			GLV	EPM														1
146	509	5	5	40-50	WS	11	11			GLV	EPM						1								
146	510	5	6	50-60	DS	89	11			ORF	IMM														1
146	511	5	6	50-60	WS	11	11			ORF	IMM														1
146	512	5	7	60-70	DS	89	11			ORF	IMM		1	1			1							2	2
146	513	5	7	60-70	WS	11	11			ORF	IMM														1
146	514	5	8	70-80	DS	89	11			ORF	IMM		1	1									27	38	6
146	515	5	8	70-80	WS	11	11			ORF	IMM														13
146	516	5	9	80-90	DS	89	11			ORF	IMM		1	1			2						33	2	4
146	517	5	9	80-90	WS	11	11			ORF	IMM														5
146	518	5	10	90-100	DS	89	11			IRF	IMM												11	58	104
146	519	5	10	90-100	WS	11	11			IRF	IMM												45	98	123
146	520	5	11	100-110	DS	89	11			IRF	IMM			1			1						63	187	261
146	521	5	11	100-110	WS	11	11			IRF	IMM												52	95	104
146	522	5	12	110-125	DS	89	11			RFL	IMM													195	197
146	523	5	12	110-125	WS	11	11			RFL	IMM														1
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM										3			5	35
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM														
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	1												15	36
146	600	6	1	0-10	AL	NA	11			OTR	NA														
146	601	6	1	0-10	AL	NA	11			OTR	NA														
146	602	6	2	10-20	DS	89	11			GLV	EPM														
146	603	6	2	10-20	WS	11	11			GLV	EPM														
146	604	6	3	20-30	DS	89	11			GLV	EPM														
146	605	6	3	20-30	WS	11	11			GLV	EPM														
146	606	6	4	30-40	DS	89	11			GLV	EPM						1								1
146	607	6	4	30-40	WS	11	11			GLV	EPM														
146	608	6	5	40-50	DS	89	11			GLV	EPM														1
146	609	6	5	40-50	WS	11	11			GLV	EPM														1
146	610	6	6	50-60	DS	89	11			ORF	IMM						1								1
146	611	6	6	50-60	WS	11	11			ORF	IMM														1
146	612	6	7	60-70	DS	89	11			ORF	IMM														2
146	613	6	7	60-70	WS	11	11			ORF	IMM														
146	614	6	8	70-80	DS	89	11			ORF	IMM			1			1								5
146	615	6	8	70-80	WS	11	11			ORF	IMM														1
146	616	6	9	80-90	DS	89	11			ORF	IMM		1	2			1								3
146	617	6	9	80-90	WS	11	11			ORF	IMM														1
146	618	6	10	90-100	DS	89	11			IRF	IMM													1	6
146	619	6	10	90-100	WS	11	11			IRF	IMM														5

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
146	620	6	11	100-110	DS	89	11			IRF	IMM													74	90
146	621	6	11	100-110	WS	11	11			IRF	IMM													10	29
146	622	6	12	110-125	DS	89	11			RFL	IMM											1	44	114	210
146	623	6	12	110-125	WS	11	11			RFL	IMM													13	24
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM														
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM														
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM														
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM													12	29
146	700	7	1	0-10	AL	NA	11			OTR	NA														
146	701	7	1	0-10	AL	NA	11			OTR	NA														
146	702	7	2	10-20	DS	89	11			GLV	EPM														
146	703	7	2	10-20	WS	11	11			GLV	EPM														
146	704	7	3	20-30	DS	89	11			GLV	UKN							1	1					2	
146	705	7	3	20-30	WS	11	11			GLV	UKN														1
146	706	7	4	30-40	DS	89	11			GLV	EPM														
146	707	7	4	30-40	WS	11	11			GLV	EPM														
146	708	7	5	40-50	DS	89	11			GLV	EPM		1												
146	709	7	5	40-50	WS	11	11			GLV	EPM														
146	710	7	6	50-60	DS	89	11			ORF	IMM														
146	711	7	6	50-60	WS	11	11			ORF	IMM														
146	712	7	7	60-70	DS	89	11			ORF	IMM														
146	713	7	7	60-70	WS	11	11			ORF	IMM														
146	714	7	8	70-80	DS	89	11			ORF	IMM														1
146	715	7	8	70-80	WS	11	11			ORF	IMM						2								1
146	716	7	9	80-90	DS	89	11			ORF	IMM						2							12	25
146	717	7	9	80-90	WS	11	11			ORF	IMM														8
146	718	7	10	90-100	DS	89	11			IRF	IMM						1							5	8
146	719	7	10	90-100	WS	11	11			IRF	IMM														1
146	720	7	11	100-110	DS	89	11			IRF	IMM													6	20
146	721	7	11	100-110	WS	11	11			IRF	IMM														2
146	722	7	12	110-128	DS	89	11			RFL	IMM													65	55
146	723	7	12	110-128	WS	11	11			RFL	IMM			1										20	25
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM														
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM														
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM		1			1	1	1					15	49	126
146	800	8	1	0-10	AL	NA	11			OTR	NA														
146	801	8	1	0-10	AL	NA	11			OTR	NA														
146	802	8	2	10-20	DS	89	11			GLV	EPM														1
146	803	8	2	10-20	WS	11	11			GLV	EPM														
146	804	8	3	20-30	DS	89	11			GLV	EPM														1
146	805	8	3	20-30	WS	11	11			GLV	EPM														1
146	806	8	4	30-40	DS	89	11			GLV	EPM														
146	807	8	4	30-40	WS	11	11			GLV	EPM														
146	808	8	5	40-50	DS	89	11			GLV	EPM														
146	809	8	5	40-50	WS	11	11			GLV	EPM														
146	810	8	6	50-60	DS	89	11			ORF	IMM														

SNO	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
146	811	8	6	50-60	WS	11	11			ORF	IMM														1
146	812	8	7	60-70	DS	89	11			ORF	IMM														
146	813	8	7	60-70	WS	11	11			ORF	IMM														
146	814	8	8	70-80	DS	89	11			ORF	IMM														
146	815	8	8	70-80	WS	11	11			ORF	IMM			1											1
146	816	8	9	80-90	DS	89	11			ORF	IMM		1												1
146	817	8	9	80-90	WS	11	11			ORF	IMM														2
146	818	8	10	90-100	DS	89	11			IRF	IMM														1
146	819	8	10	90-100	WS	11	11			IRF	IMM														2
146	820	8	11	100-110	DS	89	11			IRF	IMM													2	7
146	821	8	11	100-110	WS	11	11			IRF	IMM														1
146	822	8	12	110-125	DS	89	11			RFL	IMM										3		12	164	400
146	823	8	12	110-125	WS	11	11			RFL	IMM														25
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM														
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM														
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM														
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM			1										36	109
146	900	9	1	0-10	DS	89	15			GLV	EPM														
146	901	9	1	0-10	WS	11	15			GLV	EPM														
146	902	9	2	10-20	DS	89	15			GLV	EPM														
146	903	9	2	10-20	WS	11	15			GLV	EPM														
146	904	9	3	20-30	DS	89	15			ORF	IMM														
146	905	9	3	20-30	WS	11	15			ORF	IMM														1
146	906	9	4	30-40	DS	89	15			ORF	IMM														1
146	907	9	4	30-40	WS	11	15			ORF	IMM														
146	908	9	5	40-45	DS	89	15			IRF	IMM														
146	909	9	5	40-45	WS	11	15			IRF	IMM														
146	910	9	6	45-55	DS	89	15			IRF	IMM													10	19
146	911	9	6	45-55	WS	11	15			IRF	IMM														1
146	912	9	7	55-65	DS	89	15			IRF	IMM													8	27
146	913	9	7	55-65	WS	11	15			IRF	IMM													2	16
146	914	9	8	65-70	DS	89	15			IRF	IMM													2	16
146	915	9	8	65-70	WS	11	15			IRF	IMM														5
146	916	9	9	70-75	DS	89	15			RFL	IMM													5	17
146	917	9	9	70-75	WS	11	15			RFL	IMM														2
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM														
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM														
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM														
146	321	9	8	66-69	NS	100	15	106	BM	FLR	IMM														
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA														

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE

TOTALS

G1CR	1.00
G2CR	7.00
G3CR	19.00
G1SL	0.00
G2SL	2.00
G3SL	19.00
ISL	2.00
MSL	1.00
G1OR	0.00
G2OR	6.00
G3OR	1.00
G1BE	302.00
G2BE	1,320.00
G3BE	2,299.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	DNM	EGL	ECR	EML	OREM	HFR	LFR
146	101	1	1	0-10	DS	100				GLV	MIX											11			
146	102	1	2	10-20	DS	100				GLV	EPM														
146	103	1	3	20-30	DS	100				GLV	EPM				1										
146	104	1	4	30-40	DS	100				GLV	EPM														
146	105	1	5	40-50	DS	100				GLV	EPM														
146	106	1	6	50-60	DS	100				GLV	IMM														
146	107	1	7	60-70	DS	100				GLV	IMM														
146	108	1	8	70-80	DS	100				GLV	IMM														
146	109	1	9	80-90	DS	100				GLV	NC														
146	110	1	10	90-100	DS	100				GLV	NC														
146	201	2	1	0-10	DS	100				GLV	EPM														
146	202	2	2	10-20	DS	100				GLV	IMM				1										
146	203	2	3	20-30	DS	100				GLV	IMM				1										
146	204	2	4	30-40	DS	100				GLV	IMM				1										
146	205	2	5	40-50	DS	100				GLV	EPM														
146	206	2	6	50-60	DS	100				GLV	NC														
146	300	3	1	0-10	DS	89	15			GLV	EPM														
146	301	3	1	0-10	WS	11	15			GLV	EPM													43	40
146	302	3	2	10-20	DS	89	15			GLV	EPM														
146	303	3	2	10-20	WS	11	15			GLV	EPM													8	3
146	304	3	3	20-30	DS	89	15			ORF	IMM														
146	305	3	3	20-30	WS	11	15			ORF	IMM													117	3
146	306	3	4	30-40	DS	89	15			ORF	IMM				1										
146	307	3	4	30-40	WS	11	15			ORF	IMM													74	3
146	308	3	5	40-45	DS	89	15			IRF	IMM				1										
146	309	3	5	40-45	WS	11	15			IRF	IMM													22	2
146	310	3	6	45-55	DS	89	15			IRF	IMM				1										
146	311	3	6	45-55	WS	11	15			IRF	IMM													39	3
146	312	3	7	55-60	DS	89	15			IRF	IMM				1										
146	313	3	7	55-60	WS	11	15			IRF	IMM													22	2
146	314	3	8	60-70	DS	89	15			IRF	IMM				1										
146	315	3	8	60-70	WS	11	15			IRF	IMM													72	62
146	316	3	9	70-80	DS	89	15			RFL	IMM				1										
146	317	3	9	70-80	WS	11	15			RFL	IMM													105	13
146	318	3	9	40-100	NS	100	15	100	PO	FLR	IMM				335										
146	319	3	9	40-103	NS	100	15	101	PO	FLR	IMM				331										
146	320	3	9	40-80	UF	100	15	102	PO	FLR	IMM														
146	321	3	9	67-80	NS	100	15	109	BM	FLR	IMM				4										
146	322	3	9	80-160	UF	100	15	117	PT	FLR	IMM														
146	401	4	1	0-10	DS	100				GLV	EPM														
146	402	4	2	10-20	DS	100				GLV	EPM														
146	403	4	3	20-30	DS	100				GLV	IMM														
146	404	4	4	30-40	DS	100				GLV	IMM														
146	405	4	5	40-50	DS	100				GLV	EPM														
146	406	4	6	50-60	DS	100				GLV	NC														

SNO	CND	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
146	500	5	1	0-10	DS	89	11			GLV	EPM														
146	501	5	1	0-10	WS	11	11			GLV	EPM													8	28
146	502	5	2	10-20	DS	89	11			GLV	UKN														
146	503	5	2	10-20	WS	11	11			GLV	UKN													7	1
146	504	5	3	20-30	DS	89	11			GLV	EPM														
146	505	5	3	20-30	WS	11	11			GLV	EPM													5	2
146	506	5	4	30-40	DS	89	11			GLV	EPM														
146	507	5	4	30-40	WS	11	11			GLV	EPM													11	1
146	508	5	5	40-50	DS	89	11			GLV	EPM														
146	509	5	5	40-50	WS	11	11			GLV	EPM													11	1
146	510	5	6	50-60	DS	89	11			ORF	IMM														
146	511	5	6	50-60	WS	11	11			ORF	IMM													56	2
146	512	5	7	60-70	DS	89	11			ORF	IMM				1										
146	513	5	7	60-70	WS	11	11			ORF	IMM													108	2
146	514	5	8	70-80	DS	89	11			ORF	IMM														
146	515	5	8	70-80	WS	11	11			ORF	IMM													415	3
146	516	5	9	80-90	DS	89	11			ORF	IMM														
146	517	5	9	80-90	WS	11	11			ORF	IMM													91	2
146	518	5	10	90-100	DS	89	11			IRF	IMM				1										
146	519	5	10	90-100	WS	11	11			IRF	IMM													336	1
146	520	5	11	100-110	DS	89	11			IRF	IMM				9										
146	521	5	11	100-110	WS	11	11			IRF	IMM													371	6
146	522	5	12	110-125	DS	89	11			RFL	IMM				5										
146	523	5	12	110-125	WS	11	11			RFL	IMM													44	1
146	524	5	12	110-118	WS	100	11	107	AC	FLR	IMM													212	27
146	525	5	12	110-118	FT	NA	11	107	AC	FLR	IMM														
146	526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	15	8	15										338	16
146	600	6	1	0-10	AL	NA	11			OTR	NA														
146	601	6	1	0-10	AL	NA	11			OTR	NA														
146	602	6	2	10-20	DS	89	11			GLV	EPM												1		
146	603	6	2	10-20	WS	11	11			GLV	EPM													21	35
146	604	6	3	20-30	DS	89	11			GLV	EPM														
146	605	6	3	20-30	WS	11	11			GLV	EPM													13	3
146	606	6	4	30-40	DS	89	11			GLV	EPM														
146	607	6	4	30-40	WS	11	11			GLV	EPM													23	2
146	608	6	5	40-50	DS	89	11			GLV	EPM														
146	609	6	5	40-50	WS	11	11			GLV	EPM													24	2
146	610	6	6	50-60	DS	89	11			ORF	IMM														
146	611	6	6	50-60	WS	11	11			ORF	IMM													76	3
146	612	6	7	60-70	DS	89	11			ORF	IMM														
146	613	6	7	60-70	WS	11	11			ORF	IMM													81	1
146	614	6	8	70-80	DS	89	11			ORF	IMM														
146	615	6	8	70-80	WS	11	11			ORF	IMM													76	2
146	616	6	9	80-90	DS	89	11			ORF	IMM				1										
146	617	6	9	80-90	WS	11	11			ORF	IMM													45	2
146	618	6	10	90-100	DS	89	11			IRF	IMM				1										
146	619	6	10	90-100	WS	11	11			IRF	IMM													34	1

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
146	620	6	11	100-110	DS	89	11			IRF	IMM				80										
146	621	6	11	100-110	WS	11	11			IRF	IMM													110	11
146	622	6	12	110-125	DS	89	11			RFL	IMM				71										
146	623	6	12	110-125	WS	11	11			RFL	IMM													97	13
146	624	6	12	114-116	NS	100	11	111	BM	FLR	IMM				50										
146	625	6	12	112-115	NS	100	11	112	BM	FLR	IMM				43										
146	626	6	12	113-115	NS	100	11	115	BM	FLR	IMM				135										
146	627	6	13	124-142	WS	100	11	116	HT	FLR	IMM			7										198	12
146	700	7	1	0-10	AL	NA	11			OTR	NA														
146	701	7	1	0-10	AL	NA	11			OTR	NA														
146	702	7	2	10-20	DS	89	11			GLV	EPM														
146	703	7	2	10-20	WS	11	11			GLV	EPM													38	72
146	704	7	3	20-30	DS	89	11			GLV	UKN														
146	705	7	3	20-30	WS	11	11			GLV	UKN													18	4
146	706	7	4	30-40	DS	89	11			GLV	EPM														
146	707	7	4	30-40	WS	11	11			GLV	EPM													8	4
146	708	7	5	40-50	DS	89	11			GLV	EPM														
146	709	7	5	40-50	WS	11	11			GLV	EPM													9	3
146	710	7	6	50-60	DS	89	11			ORF	IMM														
146	711	7	6	50-60	WS	11	11			ORF	IMM													15	2
146	712	7	7	60-70	DS	89	11			ORF	IMM														
146	713	7	7	60-70	WS	11	11			ORF	IMM													29	2
146	714	7	8	70-80	DS	89	11			ORF	IMM														
146	715	7	8	70-80	WS	11	11			ORF	IMM													67	3
146	716	7	9	80-90	DS	89	11			ORF	IMM				1										
146	717	7	9	80-90	WS	11	11			ORF	IMM													182	3
146	718	7	10	90-100	DS	89	11			IRF	IMM				1										
146	719	7	10	90-100	WS	11	11			IRF	IMM													11	1
146	720	7	11	100-110	DS	89	11			IRF	IMM				1										
146	721	7	11	100-110	WS	11	11			IRF	IMM													34	8
146	722	7	12	110-128	DS	89	11			RFL	IMM				24										
146	723	7	12	110-128	WS	11	11			RFL	IMM													151	11
146	724	7	12	110-115	NS	100	11	110	BM	FLR	IMM				27										
146	725	7	13	125-130	PL	NA	11	116	HT	FLR	IMM														
146	726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	29	281	313	31										
146	800	8	1	0-10	AL	NA	11			OTR	NA														
146	801	8	1	0-10	AL	NA	11			OTR	NA														
146	802	8	2	10-20	DS	89	11			GLV	EPM														
146	803	8	2	10-20	WS	11	11			GLV	EPM													37	47
146	804	8	3	20-30	DS	89	11			GLV	EPM														
146	805	8	3	20-30	WS	11	11			GLV	EPM													16	1
146	806	8	4	30-40	DS	89	11			GLV	EPM														
146	807	8	4	30-40	WS	11	11			GLV	EPM													7	1
146	808	8	5	40-50	DS	89	11			GLV	EPM														
146	809	8	5	40-50	WS	11	11			GLV	EPM													11	1
146	810	8	6	50-60	DS	89	11			ORF	IMM														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
146	811	8	6	50-60	WS	11	11			ORF	IMM													45	3
146	812	8	7	60-70	DS	89	11			ORF	IMM				1										
146	813	8	7	60-70	WS	11	11			ORF	IMM													20	1
146	814	8	8	70-80	DS	89	11			ORF	IMM				1										
146	815	8	8	70-80	WS	11	11			ORF	IMM													47	1
146	816	8	9	80-90	DS	89	11			ORF	IMM														
146	817	8	9	80-90	WS	11	11			ORF	IMM													110	4
146	818	8	10	90-100	DS	89	11			IRF	IMM				1										
146	819	8	10	90-100	WS	11	11			IRF	IMM													39	4
146	820	8	11	100-110	DS	89	11			IRF	IMM				3										
146	821	8	11	100-110	WS	11	11			IRF	IMM													26	1
146	822	8	12	110-125	DS	89	11			RFL	IMM				86										
146	823	8	12	110-125	WS	11	11			RFL	IMM													155	19
146	824	8	12	115-118	NS	100	11	113	BM	FLR	IMM				6										
146	825	8	12	115-118	NS	100	11	114	BM	FLR	IMM				74										
146	827	8	13	125-152	PL	NA	11	116	HT	FLR	IMM														
146	828	8	13	125-152	DS	100	11	116	HT	FLR	IMM		207	318	1										
146	900	9	1	0-10	DS	89	15			GLV	EPM														
146	901	9	1	0-10	WS	11	15			GLV	EPM													48	26
146	902	9	2	10-20	DS	89	15			GLV	EPM														
146	903	9	2	10-20	WS	11	15			GLV	EPM													20	4
146	904	9	3	20-30	DS	89	15			ORF	IMM														
146	905	9	3	20-30	WS	11	15			ORF	IMM													42	2
146	906	9	4	30-40	DS	89	15			ORF	IMM				1										
146	907	9	4	30-40	WS	11	15			ORF	IMM													42	3
146	908	9	5	40-45	DS	89	15			IRF	IMM				1										
146	909	9	5	40-45	WS	11	15			IRF	IMM													7	1
146	910	9	6	45-55	DS	89	15			IRF	IMM				1										
146	911	9	6	45-55	WS	11	15			IRF	IMM													27	6
146	912	9	7	55-65	DS	89	15			IRF	IMM				1										
146	913	9	7	55-65	WS	11	15			IRF	IMM													87	3
146	914	9	8	65-70	DS	89	15			IRF	IMM				1										
146	915	9	8	65-70	WS	11	15			IRF	IMM													37	4
146	916	9	9	70-75	DS	89	15			RFL	IMM				1										
146	917	9	9	70-75	WS	11	15			RFL	IMM													51	2
146	918	9	9	40-102	NS	100	15	103	PO	FLR	IMM				516										
146	919	9	8	40-70	UF	100	15	104	PO	FLR	IMM				5										
146	920	9	8	67-70	NS	100	15	105	BM	FLR	IMM				146										
146	921	9	8	66-69	NS	100	15	106	BM	FLR	IMM				44										
146	922	9	9	71-75	NS	100	15	108	RR	OTR	NA														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR

TOTALS

G1AH	44.00
G2AH	496.00
G3AH	653.00
CLW	2,052.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	0.00
ECR	0.00
EML	11.00
OREM	1.00
HFR	4,749.00
LFR	558.00

APPENDIX H

ARTIFACT INVENTORY DATA FOR THE WINDY MOUNDS SITE (39LM149)

39LM149 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39LM149 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39LM149 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39LM149 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39LM149 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

39LM149 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

08-29-89

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
149	101	1	1	0-10	DS	100		1	MD	MDF	LPW													
149	102	1	2	10-20	DS	100		1	MD	MDF	LPW													
149	103	1	3	20-30	DS	100		1	MD	MDF	LPW													
149	104	1	4	30-40	DS	100		1	MD	MDF	LPW													
149	105	1	5	40-50	DS	100		1	MD	SBM	LPW													
149	201	2	1	0-10	DS	100		2	MD	MDF	LPW		2	3									2	
149	202	2	2	10-20	DS	100		2	MD	MDF	LPW		2	1				1		1				
149	203	2	3	20-30	DS	100		2	MD	MDF	LPW													
149	204	2	4	30-40	DS	100		2	MD	MDF	LPW													
149	205	2	5	40-50	DS	100		2	MD	SBM	LPW													
149	301	3	1	0-10	DS	100				GLV	NC													
149	302	3	2	10-20	DS	100				GLV	LPW													
149	303	3	3	20-30	DS	100				GLV	NC													
149	304	3	4	30-40	DS	100				GLV	NC													
149	305	3	5	40-50	DS	100				GLV	NC													

TOTALS

G1BS	0.00
G2BS	4.00
G3BS	4.00
G1RM	0.00
G2RM	0.00
G3RM	0.00
PLAINBS	1.00
SIMPLBS	0.00
CORDBS	1.00
CHECKBS	0.00
BRUSHBS	0.00
DECORBS	2.00
INDETBS	0.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
149	101	1	1	0-10	DS	100		1	MD	MDF	LPW									
149	102	1	2	10-20	DS	100		1	MD	MDF	LPW									
149	103	1	3	20-30	DS	100		1	MD	MDF	LPW									
149	104	1	4	30-40	DS	100		1	MD	MDF	LPW									
149	105	1	5	40-50	DS	100		1	MD	SBM	LPW									
149	201	2	1	0-10	DS	100		2	MD	MDF	LPW									
149	202	2	2	10-20	DS	100		2	MD	MDF	LPW									
149	203	2	3	20-30	DS	100		2	MD	MDF	LPW			1						
149	204	2	4	30-40	DS	100		2	MD	MDF	LPW									
149	205	2	5	40-50	DS	100		2	MD	SBM	LPW									
149	301	3	1	0-10	DS	100				GLV	NC									
149	302	3	2	10-20	DS	100				GLV	LPW			1						
149	303	3	3	20-30	DS	100				GLV	NC									
149	304	3	4	30-40	DS	100				GLV	NC									
149	305	3	5	40-50	DS	100				GLV	NC									

TOTALS

G1BN	0.00
G2BN	0.00
G3BN	2.00
G1BB	0.00
G2BB	0.00
G3BB	0.00
G13IB	0.00
G45IB	0.00
G15MB	0.00

39LM149 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
149	101	1	1	0-10	DS	100	1		MD	MDF	LPW	1			3				
149	102	1	2	10-20	DS	100	1		MD	MDF	LPW	1			7				
149	103	1	3	20-30	DS	100	1		MD	MDF	LPW	1		1	2				
149	104	1	4	30-40	DS	100	1		MD	MDF	LPW			2	3				
149	105	1	5	40-50	DS	100	1		MD	SBM	LPW	1							
149	201	2	1	0-10	DS	100	2		MD	MDF	LPW	2							
149	202	2	2	10-20	DS	100	2		MD	MDF	LPW	7		1	2				
149	203	2	3	20-30	DS	100	2		MD	MDF	LPW	3			6				
149	204	2	4	30-40	DS	100	2		MD	MDF	LPW	1			2				
149	205	2	5	40-50	DS	100	2		MD	SBM	LPW	3		2	3				
149	301	3	1	0-10	DS	100				GLV	NC								
149	302	3	2	10-20	DS	100				GLV	LPW	1		3	2				
149	303	3	3	20-30	DS	100				GLV	NC								
149	304	3	4	30-40	DS	100				GLV	NC								
149	305	3	5	40-50	DS	100				GLV	NC								

TOTALS

STL	21.00
G1FK	0.00
G2FK	9.00
G3FK	30.00
G4FK	0.00
G1FCR	0.00
G2FCR	0.00
G3FCR	0.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
149	101	1	1	0-10	DS	100		1	MD	MDF	LPW														
149	102	1	2	10-20	DS	100		1	MD	MDF	LPW														
149	103	1	3	20-30	DS	100		1	MD	MDF	LPW														
149	104	1	4	30-40	DS	100		1	MD	MDF	LPW														
149	105	1	5	40-50	DS	100		1	MD	SBM	LPW														
149	201	2	1	0-10	DS	100		2	MD	MDF	LPW														
149	202	2	2	10-20	DS	100		2	MD	MDF	LPW														
149	203	2	3	20-30	DS	100		2	MD	MDF	LPW														
149	204	2	4	30-40	DS	100		2	MD	MDF	LPW														
149	205	2	5	40-50	DS	100		2	MD	SBM	LPW														
149	301	3	1	0-10	DS	100				GLV	NC														
149	302	3	2	10-20	DS	100				GLV	LPW														
149	303	3	3	20-30	DS	100				GLV	NC														
149	304	3	4	30-40	DS	100				GLV	NC														
149	305	3	5	40-50	DS	100				GLV	NC														

TOTALS

G1CR	0.00
G2CR	0.00
G3CR	0.00
G1SL	0.00
G2SL	0.00
G3SL	0.00
ISL	0.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	0.00
G3BE	0.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	MFR	LFR
149	101	1	1	0-10	DS	100		1	MD	MDF	LPW														
149	102	1	2	10-20	DS	100		1	MD	MDF	LPW														
149	103	1	3	20-30	DS	100		1	MD	MDF	LPW														
149	104	1	4	30-40	DS	100		1	MD	MDF	LPW														
149	105	1	5	40-50	DS	100		1	MD	SBM	LPW														
149	201	2	1	0-10	DS	100		2	MD	MDF	LPW														
149	202	2	2	10-20	DS	100		2	MD	MDF	LPW														
149	203	2	3	20-30	DS	100		2	MD	MDF	LPW														
149	204	2	4	30-40	DS	100		2	MD	MDF	LPW														
149	205	2	5	40-50	DS	100		2	MD	SBM	LPW														
149	301	3	1	0-10	DS	100				GLV	NC														
149	302	3	2	10-20	DS	100				GLV	LPW														
149	303	3	3	20-30	DS	100				GLV	NC														
149	304	3	4	30-40	DS	100				GLV	NC														
149	305	3	5	40-50	DS	100				GLV	NC														

TOTALS

G1AH	0.00
G2AH	0.00
G3AH	0.00
CLW	0.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	0.00
ECR	0.00
EML	0.00
OREM	0.00
MFR	0.00
LFR	0.00

APPENDIX I

ARTIFACT INVENTORY DATA FOR THE BETTY BITE OFF SITE (39LM156)

39LM156 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39LM156 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39LM156 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39LM156 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39LM156 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

39LM156 — NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) — WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
156	101	1	1	0-10	DS	100				GLV	NC													
156	102	1	2	10-20	DS	100				GLV	NC													
156	103	1	3	20-30	DS	100				GLV	NC													
156	104	1	4	30-40	DS	100				GLV	NC													
156	105	1	5	40-50	DS	100				GLV	LTC			4										
156	106	1	6	50-60	DS	100				GLV	LTC		1	1				1						
156	107	1	7	60-70	DS	100				GLV	LTC													
156	108	1	8	70-80	DS	100				GLV	NC													
156	109	1	9	80-90	DS	100				GLV	ERC		3	2										3
156	110	1	10	90-100	DS	100				GLV	ERC		3	10				2						1
156	111	1	11	100-110	DS	100				GLV	ERC			6										
156	112	1	12	110-120	DS	100				GLV	ERC			1										
156	113	1	13	120-130	DS	100				GLV	EPM			1										
156	201	2	1	0-10	AL	100				GLV	NC													
156	202	2	2	10-20	DS	100				GLV	REC													
156	203	2	3	20-30	DS	100				GLV	REC													
156	204	2	4	30-40	DS	100				GLV	NC													
156	205	2	5	40-50	DS	100				GLV	NC													
156	206	2	6	50-60	DS	100				GLV	LTC			1										
156	207	2	7	60-70	DS	100				GLV	NC													
156	208	2	8	70-80	DS	100				GLV	EPM													
156	209	2	9	80-90	DS	100				GLV	NC													
156	210	2	10	90-100	DS	100				GLV	ERC		1	14										1
156	211	2	11	100-110	DS	100				GLV	ERC		21	106			1	7		8				6
156	212	2	12	110-120	DS	100				GLV	ERC		5	8				1		3				1
156	213	2	13	120-130	DS	100				GLV	EPM													
156	301	3	1	0-10	DS	100				GLV	NC													
156	302	3	2	10-20	DS	100				GLV	NC													
156	303	3	3	20-30	DS	100				GLV	NC													
156	304	3	4	30-40	DS	100				GLV	NC													
156	305	3	5	40-50	DS	100				GLV	NC													
156	306	3	6	50-60	DS	100				GLV	NC													
156	307	3	7	60-70	DS	100				GLV	ERC													
156	308	3	8	70-80	DS	100				GLV	ERC			1			1							
156	309	3	9	80-90	DS	100				GLV	ERC		1	2				1						

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
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TOTALS

G1BS	0.00
G2BS	35.00
G3BS	157.00
G1RM	0.00
G2RM	0.00
G3RM	2.00
PLAINBS	12.00
SIMPLBS	0.00
CORDBS	11.00
CHECKBS	0.00
BRUSHBS	0.00
DECORBS	0.00
INDETBS	12.00

SNO	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
156	101	1	1	0-10	DS	100				GLV	NC									
156	102	1	2	10-20	DS	100				GLV	NC									
156	103	1	3	20-30	DS	100				GLV	NC									
156	104	1	4	30-40	DS	100				GLV	NC									
156	105	1	5	40-50	DS	100				GLV	LTC									
156	106	1	6	50-60	DS	100				GLV	LTC		2	2						
156	107	1	7	60-70	DS	100				GLV	LTC									
156	108	1	8	70-80	DS	100				GLV	NC									
156	109	1	9	80-90	DS	100				GLV	ERC			1			1			
156	110	1	10	90-100	DS	100				GLV	ERC		9	8		4	2	2		1
156	111	1	11	100-110	DS	100				GLV	ERC			4			2	1		1
156	112	1	12	110-120	DS	100				GLV	ERC			1			1			
156	113	1	13	120-130	DS	100				GLV	EPM									
156	201	2	1	0-10	AL	100				GLV	NC									
156	202	2	2	10-20	DS	100				GLV	REC									
156	203	2	3	20-30	DS	100				GLV	REC									
156	204	2	4	30-40	DS	100				GLV	NC									
156	205	2	5	40-50	DS	100				GLV	NC									
156	206	2	6	50-60	DS	100				GLV	LTC									
156	207	2	7	60-70	DS	100				GLV	NC									
156	208	2	8	70-80	DS	100				GLV	EPM			1						
156	209	2	9	80-90	DS	100				GLV	NC									
156	210	2	10	90-100	DS	100				GLV	ERC									
156	211	2	11	100-110	DS	100				GLV	ERC		3	8			2	3		
156	212	2	12	110-120	DS	100				GLV	ERC		3	3				1		
156	213	2	13	120-130	DS	100				GLV	EPM			3				2		
156	301	3	1	0-10	DS	100				GLV	NC									
156	302	3	2	10-20	DS	100				GLV	NC									
156	303	3	3	20-30	DS	100				GLV	NC									
156	304	3	4	30-40	DS	100				GLV	NC									
156	305	3	5	40-50	DS	100				GLV	NC									
156	306	3	6	50-60	DS	100				GLV	NC									
156	307	3	7	60-70	DS	100				GLV	ERC									
156	308	3	8	70-80	DS	100				GLV	ERC		5	13		3	2			
156	309	3	9	80-90	DS	100				GLV	ERC		4	2			1			

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB

TOTALS

G1BN	0.00
G2BN	26.00
G3BN	46.00
G1BB	0.00
G2BB	7.00
G3BB	11.00
G13IB	9.00
G45IB	0.00
G15MB	2.00

39LM156 — LITHIC ARTIFACT INVENTORY (DATA BASE 3) — WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
156	101	1	1	0-10	DS	100				GLV	NC								
156	102	1	2	10-20	DS	100				GLV	NC								
156	103	1	3	20-30	DS	100				GLV	NC								
156	104	1	4	30-40	DS	100				GLV	NC								
156	105	1	5	40-50	DS	100				GLV	LTC								
156	106	1	6	50-60	DS	100				GLV	LTC								
156	107	1	7	60-70	DS	100				GLV	LTC	1							
156	108	1	8	70-80	DS	100				GLV	NC								
156	109	1	9	80-90	DS	100				GLV	ERC				1				1
156	110	1	10	90-100	DS	100				GLV	ERC	2			29		11	18	6
156	111	1	11	100-110	DS	100				GLV	ERC				11		227	14	3
156	112	1	12	110-120	DS	100				GLV	ERC	1			2			8	3
156	113	1	13	120-130	DS	100				GLV	EPM								4
156	201	2	1	0-10	AL	100				GLV	NC								
156	202	2	2	10-20	DS	100				GLV	REC								
156	203	2	3	20-30	DS	100				GLV	REC								
156	204	2	4	30-40	DS	100				GLV	NC								
156	205	2	5	40-50	DS	100				GLV	NC								
156	206	2	6	50-60	DS	100				GLV	LTC								
156	207	2	7	60-70	DS	100				GLV	NC								
156	208	2	8	70-80	DS	100				GLV	EPM								
156	209	2	9	80-90	DS	100				GLV	NC								
156	210	2	10	90-100	DS	100				GLV	ERC				11			3	1
156	211	2	11	100-110	DS	100				GLV	ERC	7		6	44			13	17
156	212	2	12	110-120	DS	100				GLV	ERC			1	10				1
156	213	2	13	120-130	DS	100				GLV	EPM								
156	301	3	1	0-10	DS	100				GLV	NC								
156	302	3	2	10-20	DS	100				GLV	NC								
156	303	3	3	20-30	DS	100				GLV	NC								
156	304	3	4	30-40	DS	100				GLV	NC								
156	305	3	5	40-50	DS	100				GLV	NC								
156	306	3	6	50-60	DS	100				GLV	NC								
156	307	3	7	60-70	DS	100				GLV	ERC	1							2
156	308	3	8	70-80	DS	100				GLV	ERC	7		2	10			16	20
156	309	3	9	80-90	DS	100				GLV	ERC	1			2				2

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR

TOTALS

STL	20.00
G1FK	0.00
G2FK	9.00
G3FK	120.00
G4FK	0.00
G1FCR	238.00
G2FCR	72.00
G3FCR	60.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
156	101	1	1	0-10	DS	100				GLV	NC														
156	102	1	2	10-20	DS	100				GLV	NC														
156	103	1	3	20-30	DS	100				GLV	NC														
156	104	1	4	30-40	DS	100				GLV	NC														
156	105	1	5	40-50	DS	100				GLV	LTC														
156	106	1	6	50-60	DS	100				GLV	LTC														
156	107	1	7	60-70	DS	100				GLV	LTC														
156	108	1	8	70-80	DS	100				GLV	NC														
156	109	1	9	80-90	DS	100				GLV	ERC														
156	110	1	10	90-100	DS	100				GLV	ERC		1	2			1	1							6
156	111	1	11	100-110	DS	100				GLV	ERC														3
156	112	1	12	110-120	DS	100				GLV	ERC														1
156	113	1	13	120-130	DS	100				GLV	EPM														
156	201	2	1	0-10	AL	100				GLV	NC														
156	202	2	2	10-20	DS	100				GLV	REC														
156	203	2	3	20-30	DS	100				GLV	REC														
156	204	2	4	30-40	DS	100				GLV	NC														
156	205	2	5	40-50	DS	100				GLV	NC														
156	206	2	6	50-60	DS	100				GLV	LTC														
156	207	2	7	60-70	DS	100				GLV	NC														
156	208	2	8	70-80	DS	100				GLV	EPM														
156	209	2	9	80-90	DS	100				GLV	NC														
156	210	2	10	90-100	DS	100				GLV	ERC														1
156	211	2	11	100-110	DS	100				GLV	ERC			4			3							2	3
156	212	2	12	110-120	DS	100				GLV	ERC						2								1
156	213	2	13	120-130	DS	100				GLV	EPM														1
156	301	3	1	0-10	DS	100				GLV	NC														
156	302	3	2	10-20	DS	100				GLV	NC														
156	303	3	3	20-30	DS	100				GLV	NC														
156	304	3	4	30-40	DS	100				GLV	NC														
156	305	3	5	40-50	DS	100				GLV	NC														
156	306	3	6	50-60	DS	100				GLV	NC														
156	307	3	7	60-70	DS	100				GLV	ERC														
156	308	3	8	70-80	DS	100				GLV	ERC														
156	309	3	9	80-90	DS	100				GLV	ERC														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE

TOTALS

G1CR	0.00
G2CR	1.00
G3CR	6.00
G1SL	0.00
G2SL	0.00
G3SL	6.00
ISL	1.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	2.00
G3BE	16.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
156	101	1	1	0-10	DS	100				GLV	NC														
156	102	1	2	10-20	DS	100				GLV	NC														
156	103	1	3	20-30	DS	100				GLV	NC														
156	104	1	4	30-40	DS	100				GLV	NC														
156	105	1	5	40-50	DS	100				GLV	LTC														
156	106	1	6	50-60	DS	100				GLV	LTC														
156	107	1	7	60-70	DS	100				GLV	LTC														
156	108	1	8	70-80	DS	100				GLV	NC														
156	109	1	9	80-90	DS	100				GLV	ERC														
156	110	1	10	90-100	DS	100				GLV	ERC														
156	111	1	11	100-110	DS	100				GLV	ERC														
156	112	1	12	110-120	DS	100				GLV	ERC														
156	113	1	13	120-130	DS	100				GLV	EPM														
156	201	2	1	0-10	AL	100				GLV	NC														
156	202	2	2	10-20	DS	100				GLV	REC												1		
156	203	2	3	20-30	DS	100				GLV	REC												1		
156	204	2	4	30-40	DS	100				GLV	NC														
156	205	2	5	40-50	DS	100				GLV	NC														
156	206	2	6	50-60	DS	100				GLV	LTC														
156	207	2	7	60-70	DS	100				GLV	NC														
156	208	2	8	70-80	DS	100				GLV	EPM														
156	209	2	9	80-90	DS	100				GLV	NC														
156	210	2	10	90-100	DS	100				GLV	ERC														
156	211	2	11	100-110	DS	100				GLV	ERC				1										
156	212	2	12	110-120	DS	100				GLV	ERC				1										
156	213	2	13	120-130	DS	100				GLV	EPM														
156	301	3	1	0-10	DS	100				GLV	NC														
156	302	3	2	10-20	DS	100				GLV	NC														
156	303	3	3	20-30	DS	100				GLV	NC														
156	304	3	4	30-40	DS	100				GLV	NC														
156	305	3	5	40-50	DS	100				GLV	NC														
156	306	3	6	50-60	DS	100				GLV	NC														
156	307	3	7	60-70	DS	100				GLV	ERC														
156	308	3	8	70-80	DS	100				GLV	ERC														
156	309	3	9	80-90	DS	100				GLV	ERC														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR

TOTALS

G1AH	0.00
G2AH	0.00
G3AH	0.00
CLW	2.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	0.00
ECR	0.00
EML	2.00
OREM	0.00
HFR	0.00
LFR	0.00

APPENDIX J

ARTIFACT INVENTORY DATA FOR THE BUZZING YUCCA SITE (39LM166)

39LM166 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39LM166 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39LM166 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39LM166 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39LM166 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
166	101	1	1	0-10	DS	100	5			GLV	EC			4										
166	102	1	2	10-20	DS	100	5			GLV	EC		1	6				1						
166	103	1	3	20-30	DS	100	5			GRF	EC			8										
166	104	1	4	30-43	DS	89	5			RFL	EC		50	193		6	3	13	14				15	8
166	105	1	4	30-43	WS	11	5			RFL	EC			3										
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC	5	35	117		3	2	16	11				5	8
166	201	2	1	0-10	DS	100	5			GLV	EC			5										
166	202	2	2	10-20	DS	100	5			GLV	EC			3										
166	203	2	3	20-30	DS	100	5			GRF	EC		3	8		1		2					1	
166	204	2	4	30-43	DS	89	5			RFL	EC	1	49	216		1	2	16	12				6	16
166	205	2	4	30-43	WS	11	5			RFL	EC		2	37			1		1				1	
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC	3	37	170	1	3	3	11	15			1	5	8
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC	1	13	51				3	2			2	2	5
166	301	3	1	0-10	DS	100				GLV	EC	1	5	58				4	1					1
166	302	3	2	10-20	DS	100				GLV	EC	2	16	41			1	6	6				6	
166	303	3	3	20-32	DS	100				GLV	EC	1	8	40	1	1		1	3				2	3
166	304	3	3	30-49	NS	100		102	TR	OTR	NA													
166	401	4	1	0-10	DS	100				GLV	EC		2	3					1				1	
166	402	4	2	10-20	DS	100				GLV	EC			6										
166	403	4	3	20-30	DS	100				GLV	EC			2										
166	404	4	4	30-40	DS	100				GLV	EPM													
166	501	5	1	0-10	DS	100				GLV	EC			3										
166	502	5	2	10-20	DS	100				GLV	NC													
166	601	6	1	0-10	DS	100	6			GLV	MIX		1	9				1						
166	602	6	2	10-20	DS	100	6			GLV	MIX			1										
166	603	6	3	20-30	DS	100	6			ORF	EC		2	11				1					1	
166	604	6	4	30-37	DS	100	6			RFL	EC		7	45				4						3
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC		8	98			1	3	2				1	2
166	701	7	1	0-10	DS	100				GLV	EC		8	73		1	2	4				3		1
166	702	7	2	10-20	DS	100				GLV	EC			29										
166	703	7	3	20-30	DS	100				GLV	EPM													
166	801	8	1	0-10	DS	100				GLV	EC			5			1							
166	802	8	2	10-20	DS	100				GLV	EC													
166	803	8	3	20-30	DS	100				GLV	EPM													

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND

TOTALS

G1BS	14.00
G2BS	247.00
G3BS	1,245.00
G1RM	2.00
G2RM	16.00
G3RM	16.00
PLAINBS	86.00
SIMPLBS	68.00
CORDBS	0.00
CHECKBS	0.00
BRUSHBS	6.00
DECORBS	46.00
INDETBS	55.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
166	101	1	1	0-10	DS	100	5			GLV	EC			1						
166	102	1	2	10-20	DS	100	5			GLV	EC			1			1			
166	103	1	3	20-30	DS	100	5			GRF	EC		7	2			1			
166	104	1	4	30-43	DS	89	5			RFL	EC		34	55		18	51	5		
166	105	1	4	30-43	WS	11	5			RFL	EC			1			1			
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC		17	42		17	42	4		1
166	201	2	1	0-10	DS	100	5			GLV	EC									
166	202	2	2	10-20	DS	100	5			GLV	EC			1			1			
166	203	2	3	20-30	DS	100	5			GRF	EC		3	5			1			
166	204	2	4	30-43	DS	89	5			RFL	EC		5	21		4	15			
166	205	2	4	30-43	WS	11	5			RFL	EC		15	7		15	7		5	
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC		11	49		7	49			
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC		5	10		5	10	2	25	
166	301	3	1	0-10	DS	100				GLV	EC	12	16	28		2	1	1		
166	302	3	2	10-20	DS	100				GLV	EC	8	43	50			3	1		
166	303	3	3	20-32	DS	100				GLV	EC	167	30	9				3		2
166	304	3	3	30-49	NS	100		102	TR	OTR	NA									
166	401	4	1	0-10	DS	100				GLV	EC	422	34	11				1		11
166	402	4	2	10-20	DS	100				GLV	EC	77	55	32			2	6		
166	403	4	3	20-30	DS	100				GLV	EC		4	21						
166	404	4	4	30-40	DS	100				GLV	EPM		1	1				1		
166	501	5	1	0-10	DS	100				GLV	EC									
166	502	5	2	10-20	DS	100				GLV	NC									
166	601	6	1	0-10	DS	100	6			GLV	MIX		1	3				1		
166	602	6	2	10-20	DS	100	6			GLV	MIX		7	4			1	2		
166	603	6	3	20-30	DS	100	6			ORF	EC		5	8			1			
166	604	6	4	30-37	DS	100	6			RFL	EC		4	12		2	11	1		
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC		5	27		5	27	5		
166	701	7	1	0-10	DS	100				GLV	EC			1			1			
166	702	7	2	10-20	DS	100				GLV	EC			1			1			
166	703	7	3	20-30	DS	100				GLV	EPM									
166	801	8	1	0-10	DS	100				GLV	EC		1	4			1			
166	802	8	2	10-20	DS	100				GLV	EC		1	2				1		
166	803	8	3	20-30	DS	100				GLV	EPM			1						

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB

TOTALS

G1BN	686.00
G2BN	304.00
G3BN	410.00
G1BB	0.00
G2BB	75.00
G3BB	228.00
G13IB	34.00
G45IB	30.00
G15MB	14.00

SND	CND	TN	LN	SD	RT	PES	MN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
166	101	1	1	0-10	DS	100	5			GLV	EC				5				
166	102	1	2	10-20	DS	100	5			GLV	EC				1				
166	103	1	3	20-30	DS	100	5			GRF	EC			1	3				
166	104	1	4	30-43	DS	89	5			RFL	EC	6		4	27				1
166	105	1	4	30-43	WS	11	5			RFL	EC					5			
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC	3		7	41		24	502	1087
166	201	2	1	0-10	DS	100	5			GLV	EC				3				
166	202	2	2	10-20	DS	100	5			GLV	EC				1				
166	203	2	3	20-30	DS	100	5			GRF	EC	1			5				
166	204	2	4	30-43	DS	89	5			RFL	EC	4		9	23				1
166	205	2	4	30-43	WS	11	5			RFL	EC			2	7	12			
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC	4		3	19		44	103	511
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC			1	1	6		23	105
166	301	3	1	0-10	DS	100				GLV	EC	7		2	9				
166	302	3	2	10-20	DS	100				GLV	EC	1		1	30				
166	303	3	3	20-32	DS	100				GLV	EC	1		4	12		66		
166	304	3	3	30-49	NS	100		102	TR	OTR	NA								
166	401	4	1	0-10	DS	100				GLV	EC				1				
166	402	4	2	10-20	DS	100				GLV	EC	1			4				
166	403	4	3	20-30	DS	100				GLV	EC				2			12	
166	404	4	4	30-40	DS	100				GLV	EPM								
166	501	5	1	0-10	DS	100				GLV	EC								
166	502	5	2	10-20	DS	100				GLV	NC								
166	601	6	1	0-10	DS	100	6			GLV	MIX	1			3				
166	602	6	2	10-20	DS	100	6			GLV	MIX								
166	603	6	3	20-30	DS	100	6			GRF	EC	1		1	2				
166	604	6	4	30-37	DS	100	6			RFL	EC	2			2			7	
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC	2		2	15			3	1
166	701	7	1	0-10	DS	100				GLV	EC	3			8				1
166	702	7	2	10-20	DS	100				GLV	EC	1			2				
166	703	7	3	20-30	DS	100				GLV	EPM				1				
166	801	8	1	0-10	DS	100				GLV	EC				1				1
166	802	8	2	10-20	DS	100				GLV	EC								
166	803	8	3	20-30	DS	100				GLV	EPM								

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR

TOTALS

STL	38.00
G1FK	0.00
G2FK	37.00
G3FK	228.00
G4FK	23.00
G1FCR	134.00
G2FCR	650.00
G3FCR	1,708.00

SND	CND	TN	LN	SD	RT	PES	MN	FND	FT	ACU	CMU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
166	101	1	1	0-10	DS	100	5			GLV	EC														
166	102	1	2	10-20	DS	100	5			GLV	EC														
166	103	1	3	20-30	DS	100	5			GRF	EC														3
166	104	1	4	30-43	DS	89	5			RFL	EC						1							28	70
166	105	1	4	30-43	WS	11	5			RFL	EC						7								
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC													28	65
166	201	2	1	0-10	DS	100	5			GLV	EC														
166	202	2	2	10-20	DS	100	5			GLV	EC														1
166	203	2	3	20-30	DS	100	5			GRF	EC														4
166	204	2	4	30-43	DS	89	5			RFL	EC													8	49
166	205	2	4	30-43	WS	11	5			RFL	EC						1							1	13
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC						1							31	114
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC														40
166	301	3	1	0-10	DS	100				GLV	EC						1								
166	302	3	2	10-20	DS	100				GLV	EC														
166	303	3	3	20-32	DS	100				GLV	EC														
166	304	3	3	30-49	NS	100		102	TR	OTR	NA														
166	401	4	1	0-10	DS	100				GLV	EC														
166	402	4	2	10-20	DS	100				GLV	EC														
166	403	4	3	20-30	DS	100				GLV	EC														
166	404	4	4	30-40	DS	100				GLV	EPM														
166	501	5	1	0-10	DS	100				GLV	EC						2								
166	502	5	2	10-20	DS	100				GLV	NC														
166	601	6	1	0-10	DS	100	6			GLV	MIX														
166	602	6	2	10-20	DS	100	6			GLV	MIX														
166	603	6	3	20-30	DS	100	6			ORF	EC														
166	604	6	4	30-37	DS	100	6			RFL	EC						4							5	10
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC													14	181
166	701	7	1	0-10	DS	100				GLV	EC														1
166	702	7	2	10-20	DS	100				GLV	EC														5
166	703	7	3	20-30	DS	100				GLV	EPM														
166	801	8	1	0-10	DS	100				GLV	EC														
166	802	8	2	10-20	DS	100				GLV	EC														
166	803	8	3	20-30	DS	100				GLV	EPM														

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE

TOTALS

G1CR	0.00
G2CR	0.00
G3CR	0.00
G1SL	0.00
G2SL	0.00
G3SL	17.00
ISL	0.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	115.00
G3BE	556.00

39LM166 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) — MCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
166	101	1	1	0-10	DS	100	5			GLV	EC														
166	102	1	2	10-20	DS	100	5			GLV	EC														
166	103	1	3	20-30	DS	100	5			GRF	EC														
166	104	1	4	30-43	DS	89	5			RFL	EC		3	2	1										
166	105	1	4	30-43	WS	11	5			RFL	EC													502	2
166	106	1	5	43-59	DS	100	5	100	HT	FLR	EC	918	200	422	1				1						
166	201	2	1	0-10	DS	100	5			GLV	EC														
166	202	2	2	10-20	DS	100	5			GLV	EC				1										
166	203	2	3	20-30	DS	100	5			GRF	EC		2	1											
166	204	2	4	30-43	DS	89	5			RFL	EC	609	254	111	1										
166	205	2	4	30-43	WS	11	5			RFL	EC													417	1
166	206	2	5	43-52	DS	89	5	100	HT	FLR	EC		59	154	1										
166	207	2	5	43-52	WS	11	5	100	HT	FLR	EC								1					640	8
166	301	3	1	0-10	DS	100				GLV	EC				1										
166	302	3	2	10-20	DS	100				GLV	EC				1										
166	303	3	3	20-32	DS	100				GLV	EC				1										
166	304	3	3	30-49	WS	100		102	TR	OTR	NA														
166	401	4	1	0-10	DS	100				GLV	EC														
166	402	4	2	10-20	DS	100				GLV	EC														
166	403	4	3	20-30	DS	100				GLV	EC														
166	404	4	4	30-40	DS	100				GLV	EPM														
166	501	5	1	0-10	DS	100				GLV	EC														
166	502	5	2	10-20	DS	100				GLV	NC														
166	601	6	1	0-10	DS	100	6			GLV	MIX				1					8	10	17	7		
166	602	6	2	10-20	DS	100	6			GLV	MIX				1							1	2		
166	603	6	3	20-30	DS	100	6			ORF	EC														
166	604	6	4	30-37	DS	100	6			RFL	EC				1										
166	605	6	5	35-58	DS	100	6	101	HT	FLR	EC			4	2										
166	701	7	1	0-10	DS	100				GLV	EC														
166	702	7	2	10-20	DS	100				GLV	EC														
166	703	7	3	20-30	DS	100				GLV	EPM														
166	801	8	1	0-10	DS	100				GLV	EC														
166	802	8	2	10-20	DS	100				GLV	EC				1										
166	803	8	3	20-30	DS	100				GLV	EPM														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR

TOTALS

G1AH	1,527.00
G2AH	518.00
G3AH	694.00
CLW	14.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	2.00
EGL	8.00
ECR	10.00
EML	18.00
OREM	9.00
HFR	1,559.00
LFR	11.00

APPENDIX K

ARTIFACT INVENTORY DATA FOR THE GHOST LODGE SITE (39ST120)

39ST120 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39ST120 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39ST120 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39ST120 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39ST120 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
120	101	1	1	0-10	DS	100				GLV	NC													
120	102	1	2	10-20	DS	100				GLV	NC													
120	103	1	3	20-30	DS	100				GLV	NC													
120	104	1	4	30-40	DS	100				GLV	NC													
120	105	1	5	40-50	DS	100				GLV	NC													
120	106	1	6	50-60	DS	100				GLV	NC													
120	107	1	7	60-70	DS	100				GLV	NC													
120	201	2	1	0-10	DS	100				GLV	NC													
120	202	2	2	10-20	DS	100				GLV	PCC			2										
120	203	2	3	20-30	DS	100				GLV	PCC			1										
120	204	2	4	30-40	DS	100				GLV	PCC	1	1									2		
120	205	2	5	40-50	DS	100				GLV	NC													
120	206	2	6	50-60	DS	100				GLV	NC													
120	207	2	7	60-70	DS	100				GLV	NC													
120	208	2	8	70-80	DS	100				GLV	NC													
120	301	3	1	0-10	DS	100	2			GLV	NC													
120	302	3	2	10-20	DS	100	2			GLV	NC													
120	303	3	3	20-30	DS	100	2			GLV	EPM													
120	304	3	4	30-40	DS	100	2			GLV	EPM													
120	305	3	5	40-50	DS	100	2			GLV	EPM			1										
120	306	3	6	50-65	DS	89	2			RFL	PCC		9	22				2	3			2		2
120	307	3	6	50-65	WS	11	2			RFL	PCC													
120	308	3	7	65-66	DS	100	2			FLR	PCC	1	9	23	1			2	5			1		2
120	309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	1	16	34	2		1	4	5			2		6
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC	1	5	22		5	1	1	1			2		2
120	401	4	1	0-10	DS	100	2			GLV	NC													
120	402	4	2	10-20	DS	100	2			GLV	NC													
120	403	4	3	20-30	DS	100	2			GLV	NC													
120	404	4	4	30-40	DS	100	2			GLV	EPM													
120	405	4	5	40-50	DS	100	2			GLV	EPM													
120	406	4	6	50-65	DS	100	2			RFL	PCC	5	15	40		1	1	4	13					3
120	407	4	7	65-67	DS	100	2			FLR	PCC	3	4	12					3					4
120	408	4	7	65	NS	100	2	100	RR	OTR	NA													
120	501	5	1	0-10	NS	100	2			GLV	NC													
120	502	5	2	10-20	DS	100	2			GLV	NC													
120	503	5	3	20-30	DS	100	2			GLV	NC													
120	504	5	4	30-40	DS	100	2			GLV	EPM													
120	505	5	5	40-50	DS	100	2			GLV	EPM													
120	506	5	6	50-65	DS	89	2			RFL	PCC		10	29			1	4	3				1	2
120	507	5	6	50-65	WS	11	2			RFL	PCC			1										

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
120	601	6	1	0-10	NS	100	2			GLV	NC													
120	602	6	2	10-20	DS	100	2			GLV	EPM		1						1					
120	603	6	3	20-30	DS	100	2			GLV	EPM													
120	604	6	4	30-40	DS	100	2			GRF	PCC			7										
120	605	6	5	40-50	DS	100	2			RFL	PCC			9										
120	606	6	6	50-61	DS	100	2			RFL	PCC													
120	701	7	1	0-10	DS	100				GLV	NC													
120	702	7	2	10-20	DS	100				GLV	EPM													
120	703	7	3	20-30	DS	100				GLV	PCC			6										
120	704	7	4	30-40	DS	100				GLV	PCC			8			1							
120	705	7	5	40-50	DS	100				GLV	PCC		4	15				1	2					1
120	706	7	6	50-60	DS	100				GLV	PCC			3										
120	707	7	7	60-70	DS	100				GLV	NC													
120	708	7	8	70-80	DS	100				GLV	NC			1										
120	801	8	1	0-10	DS	100				GLV	NC													
120	802	8	2	10-20	DS	100				GLV	EPM													
120	803	8	3	20-30	DS	100				GLV	PCC			1										
120	804	8	4	30-40	DS	100				GLV	NC													
120	805	8	5	40-50	DS	100				GLV	NC													
120	806	8	6	50-60	DS	100				GLV	NC													
120	807	8	7	60-70	DS	100				GLV	NC													
120	808	8	8	70-80	DS	100				GLV	EPM													
120	809	8	9	80-90	DS	100				GLV	NC													
120	810	8	10	90-100	DS	100				GLV	UKN													
120	811	8	11	100-110	DS	100				GLV	UKN													

TOTALS

G1BS	12.00
G2BS	74.00
G3BS	237.00
G1RM	3.00
G2RM	6.00
G3RM	5.00
PLAINBS	18.00
SIMPLBS	36.00
CORDBS	0.00
CHECKBS	0.00
BRUSHBS	9.00
DECORBS	1.00
INDETBS	22.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
120	101	1	1	0-10	DS	100				GLV	NC									
120	102	1	2	10-20	DS	100				GLV	NC									
120	103	1	3	20-30	DS	100				GLV	NC									
120	104	1	4	30-40	DS	100				GLV	NC									
120	105	1	5	40-50	DS	100				GLV	NC									
120	106	1	6	50-60	DS	100				GLV	NC									
120	107	1	7	60-70	DS	100				GLV	NC									
120	201	2	1	0-10	DS	100				GLV	NC									
120	202	2	2	10-20	DS	100				GLV	PCC			1						
120	203	2	3	20-30	DS	100				GLV	PCC			1						
120	204	2	4	30-40	DS	100				GLV	PCC			1						
120	205	2	5	40-50	DS	100				GLV	NC									
120	206	2	6	50-60	DS	100				GLV	NC									
120	207	2	7	60-70	DS	100				GLV	NC									
120	208	2	8	70-80	DS	100				GLV	NC									
120	301	3	1	0-10	DS	100	2			GLV	NC									
120	302	3	2	10-20	DS	100	2			GLV	NC									
120	303	3	3	20-30	DS	100	2			GLV	EPM			1						
120	304	3	4	30-40	DS	100	2			GLV	EPM									
120	305	3	5	40-50	DS	100	2			GLV	EPM									
120	306	3	6	50-65	DS	89	2			RFL	PCC	45	4	3			1	1		
120	307	3	6	50-65	WS	11	2			RFL	PCC									
120	308	3	7	65-66	DS	100	2			FLR	PCC	10		1						
120	309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	10	20	28	10	3	24		6	
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC		6	22		6	20	2		
120	401	4	1	0-10	DS	100	2			GLV	NC									
120	402	4	2	10-20	DS	100	2			GLV	NC									
120	403	4	3	20-30	DS	100	2			GLV	NC									
120	404	4	4	30-40	DS	100	2			GLV	EPM			1						
120	405	4	5	40-50	DS	100	2			GLV	EPM			1						
120	406	4	6	50-65	DS	100	2			RFL	PCC			2			1			
120	407	4	7	65-67	DS	100	2			FLR	PCC			1			1			
120	408	4	7	65	NS	100	2	100	RR	OTR	NA									
120	501	5	1	0-10	NS	100	2			GLV	NC									
120	502	5	2	10-20	DS	100	2			GLV	NC									
120	503	5	3	20-30	DS	100	2			GLV	NC									
120	504	5	4	30-40	DS	100	2			GLV	EPM		8	3						
120	505	5	5	40-50	DS	100	2			GLV	EPM									
120	506	5	6	50-65	DS	89	2			RFL	PCC		5	8			4			
120	507	5	6	50-65	WS	11	2			RFL	PCC			1						

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
120	601	6	1	0-10	NS	100	2			GLV	NC									
120	602	6	2	10-20	DS	100	2			GLV	EPM									
120	603	6	3	20-30	DS	100	2			GLV	EPM			1						
120	604	6	4	30-40	DS	100	2			GRF	PCC		3	5			1			
120	605	6	5	40-50	DS	100	2			RFL	PCC	34	4	5						
120	606	6	6	50-61	DS	100	2			RFL	PCC		6	1						
120	701	7	1	0-10	DS	100				GLV	NC									
120	702	7	2	10-20	DS	100				GLV	EPM			1						
120	703	7	3	20-30	DS	100				GLV	PCC			4						
120	704	7	4	30-40	DS	100				GLV	PCC		20	6						
120	705	7	5	40-50	DS	100				GLV	PCC		5	8			1			
120	706	7	6	50-60	DS	100				GLV	PCC			4						
120	707	7	7	60-70	DS	100				GLV	NC									
120	708	7	8	70-80	DS	100				GLV	NC									
120	801	8	1	0-10	DS	100				GLV	NC									
120	802	8	2	10-20	DS	100				GLV	EPM			1			1			
120	803	8	3	20-30	DS	100				GLV	PCC			3						
120	804	8	4	30-40	DS	100				GLV	NC									
120	805	8	5	40-50	DS	100				GLV	NC									
120	806	8	6	50-60	DS	100				GLV	NC									
120	807	8	7	60-70	DS	100				GLV	NC									
120	808	8	8	70-80	DS	100				GLV	EPM			1						
120	809	8	9	80-90	DS	100				GLV	NC									
120	810	8	10	90-100	DS	100				GLV	UKN	13	6	5			1			
120	811	8	11	100-110	DS	100				GLV	UKN									

TOTALS

G1BN	112.00
G2BN	87.00
G3BN	120.00
G1BB	10.00
G2BB	9.00
G3BB	55.00
G13IB	3.00
G45IB	6.00
G15MB	0.00

39ST120 — LITHIC ARTIFACT INVENTORY (DATA BASE 3) — WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
120	101	1	1	0-10	DS	100				GLV	NC								
120	102	1	2	10-20	DS	100				GLV	NC								
120	103	1	3	20-30	DS	100				GLV	NC								
120	104	1	4	30-40	DS	100				GLV	NC								
120	105	1	5	40-50	DS	100				GLV	NC								
120	106	1	6	50-60	DS	100				GLV	NC								
120	107	1	7	60-70	DS	100				GLV	NC								
120	201	2	1	0-10	DS	100				GLV	NC								
120	202	2	2	10-20	DS	100				GLV	PCC								
120	203	2	3	20-30	DS	100				GLV	PCC								
120	204	2	4	30-40	DS	100				GLV	PCC								
120	205	2	5	40-50	DS	100				GLV	NC								
120	206	2	6	50-60	DS	100				GLV	NC								
120	207	2	7	60-70	DS	100				GLV	NC								
120	208	2	8	70-80	DS	100				GLV	NC								
120	301	3	1	0-10	DS	100	2			GLV	NC								
120	302	3	2	10-20	DS	100	2			GLV	NC								
120	303	3	3	20-30	DS	100	2			GLV	EPM								
120	304	3	4	30-40	DS	100	2			GLV	EPM								
120	305	3	5	40-50	DS	100	2			GLV	EPM								
120	306	3	6	50-65	DS	89	2			RFL	PCC	1			1				
120	307	3	6	50-65	WS	11	2			RFL	PCC								
120	308	3	7	65-66	DS	100	2			FLR	PCC				1				
120	309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	3			11	48			
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC	2		1	10		514	26	7
120	401	4	1	0-10	DS	100	2			GLV	NC								
120	402	4	2	10-20	DS	100	2			GLV	NC								
120	403	4	3	20-30	DS	100	2			GLV	NC								
120	404	4	4	30-40	DS	100	2			GLV	EPM								
120	405	4	5	40-50	DS	100	2			GLV	EPM								
120	406	4	6	50-65	DS	100	2			RFL	PCC	1			12			20	
120	407	4	7	65-67	DS	100	2			FLR	PCC								1
120	408	4	7	65	NS	100	2	100	RR	OTR	NA								
120	501	5	1	0-10	NS	100	2			GLV	NC								
120	502	5	2	10-20	DS	100	2			GLV	NC								
120	503	5	3	20-30	DS	100	2			GLV	NC								
120	504	5	4	30-40	DS	100	2			GLV	EPM								
120	505	5	5	40-50	DS	100	2			GLV	EPM								
120	506	5	6	50-65	DS	89	2			RFL	PCC	1		1	8		132		
120	507	5	6	50-65	WS	11	2			RFL	PCC				1				

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
120	601	6	1	0-10	NS	100	2			GLV	NC								
120	602	6	2	10-20	DS	100	2			GLV	EPM								
120	603	6	3	20-30	DS	100	2			GLV	EPM								
120	604	6	4	30-40	DS	100	2			GRF	PCC								
120	605	6	5	40-50	DS	100	2			RFL	PCC			1	2				
120	606	6	6	50-61	DS	100	2			RFL	PCC	2							
120	701	7	1	0-10	DS	100				GLV	NC								
120	702	7	2	10-20	DS	100				GLV	EPM								
120	703	7	3	20-30	DS	100				GLV	PCC								
120	704	7	4	30-40	DS	100				GLV	PCC								
120	705	7	5	40-50	DS	100				GLV	PCC					1			
120	706	7	6	50-60	DS	100				GLV	PCC								
120	707	7	7	60-70	DS	100				GLV	NC								
120	708	7	8	70-80	DS	100				GLV	NC								
120	801	8	1	0-10	DS	100				GLV	NC								
120	802	8	2	10-20	DS	100				GLV	EPM								
120	803	8	3	20-30	DS	100				GLV	PCC								
120	804	8	4	30-40	DS	100				GLV	NC								
120	805	8	5	40-50	DS	100				GLV	NC								
120	806	8	6	50-60	DS	100				GLV	NC								
120	807	8	7	60-70	DS	100				GLV	NC								
120	808	8	8	70-80	DS	100				GLV	EPM								
120	809	8	9	80-90	DS	100				GLV	NC								
120	810	8	10	90-100	DS	100				GLV	UKN								
120	811	8	11	100-110	DS	100				GLV	UKN								

TOTALS

STL	10.00
G1FK	0.00
G2FK	3.00
G3FK	47.00
G4FK	48.00
G1FCR	646.00
G2FCR	46.00
G3FCR	8.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
120	101	1	1	0-10	DS	100				GLV	NC														
120	102	1	2	10-20	DS	100				GLV	NC														
120	103	1	3	20-30	DS	100				GLV	NC														
120	104	1	4	30-40	DS	100				GLV	NC														
120	105	1	5	40-50	DS	100				GLV	NC														
120	106	1	6	50-60	DS	100				GLV	NC														
120	107	1	7	60-70	DS	100				GLV	NC														
120	201	2	1	0-10	DS	100				GLV	NC														
120	202	2	2	10-20	DS	100				GLV	PCC														
120	203	2	3	20-30	DS	100				GLV	PCC														
120	204	2	4	30-40	DS	100				GLV	PCC														
120	205	2	5	40-50	DS	100				GLV	NC														
120	206	2	6	50-60	DS	100				GLV	NC														
120	207	2	7	60-70	DS	100				GLV	NC														
120	208	2	8	70-80	DS	100				GLV	NC														
120	301	3	1	0-10	DS	100	2			GLV	NC														
120	302	3	2	10-20	DS	100	2			GLV	NC														
120	303	3	3	20-30	DS	100	2			GLV	EPM														
120	304	3	4	30-40	DS	100	2			GLV	EPM														
120	305	3	5	40-50	DS	100	2			GLV	EPM														
120	306	3	6	50-65	DS	89	2			RFL	PCC													12	8
120	307	3	6	50-65	MS	11	2			RFL	PCC														
120	308	3	7	65-66	DS	100	2			FLR	PCC														2
120	309	3	8	66-81	MS	50	2	101	HT	FLR	PCC													14	34
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC			1										13	48
120	401	4	1	0-10	DS	100	2			GLV	NC														
120	402	4	2	10-20	DS	100	2			GLV	NC														
120	403	4	3	20-30	DS	100	2			GLV	NC														
120	404	4	4	30-40	DS	100	2			GLV	EPM														
120	405	4	5	40-50	DS	100	2			GLV	EPM														
120	406	4	6	50-65	DS	100	2			RFL	PCC														
120	407	4	7	65-67	DS	100	2			FLR	PCC														
120	408	4	7	65	MS	100	2	100	RR	OTR	NA														
120	501	5	1	0-10	MS	100	2			GLV	NC														
120	502	5	2	10-20	DS	100	2			GLV	NC														
120	503	5	3	20-30	DS	100	2			GLV	NC														
120	504	5	4	30-40	DS	100	2			GLV	EPM														
120	505	5	5	40-50	DS	100	2			GLV	EPM														
120	506	5	6	50-65	DS	89	2			RFL	PCC														1
120	507	5	6	50-65	MS	11	2			RFL	PCC														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
120	601	6	1	0-10	NS	100	2			GLV	NC														
120	602	6	2	10-20	DS	100	2			GLV	EPM														
120	603	6	3	20-30	DS	100	2			GLV	EPM														
120	604	6	4	30-40	DS	100	2			GRF	PCC														
120	605	6	5	40-50	DS	100	2			RFL	PCC														
120	606	6	6	50-61	DS	100	2			RFL	PCC			1											
120	701	7	1	0-10	DS	100				GLV	NC														
120	702	7	2	10-20	DS	100				GLV	EPM														
120	703	7	3	20-30	DS	100				GLV	PCC														
120	704	7	4	30-40	DS	100				GLV	PCC														
120	705	7	5	40-50	DS	100				GLV	PCC														1
120	706	7	6	50-60	DS	100				GLV	PCC														1
120	707	7	7	60-70	DS	100				GLV	NC														
120	708	7	8	70-80	DS	100				GLV	NC														
120	801	8	1	0-10	DS	100				GLV	NC														
120	802	8	2	10-20	DS	100				GLV	EPM														
120	803	8	3	20-30	DS	100				GLV	PCC														
120	804	8	4	30-40	DS	100				GLV	NC														
120	805	8	5	40-50	DS	100				GLV	NC														
120	806	8	6	50-60	DS	100				GLV	NC														
120	807	8	7	60-70	DS	100				GLV	NC														
120	808	8	8	70-80	DS	100				GLV	EPM														
120	809	8	9	80-90	DS	100				GLV	NC														
120	810	8	10	90-100	DS	100				GLV	UKN														
120	811	8	11	100-110	DS	100				GLV	UKN														

TOTALS

G1CR	0.00
G2CR	0.00
G3CR	2.00
G1SL	0.00
G2SL	0.00
G3SL	0.00
ISL	0.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	39.00
G3BE	95.00

SNO	CNO	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
120	101	1	1	0-10	DS	100				GLV	NC														
120	102	1	2	10-20	DS	100				GLV	NC														
120	103	1	3	20-30	DS	100				GLV	NC														
120	104	1	4	30-40	DS	100				GLV	NC														
120	105	1	5	40-50	DS	100				GLV	NC														
120	106	1	6	50-60	DS	100				GLV	NC														
120	107	1	7	60-70	DS	100				GLV	NC														
120	201	2	1	0-10	DS	100				GLV	NC														
120	202	2	2	10-20	DS	100				GLV	PCC														
120	203	2	3	20-30	DS	100				GLV	PCC														
120	204	2	4	30-40	DS	100				GLV	PCC														
120	205	2	5	40-50	DS	100				GLV	NC														
120	206	2	6	50-60	DS	100				GLV	NC														
120	207	2	7	60-70	DS	100				GLV	NC														
120	208	2	8	70-80	DS	100				GLV	NC														
120	301	3	1	0-10	DS	100	2			GLV	NC														
120	302	3	2	10-20	DS	100	2			GLV	NC														
120	303	3	3	20-30	DS	100	2			GLV	EPM														
120	304	3	4	30-40	DS	100	2			GLV	EPM														
120	305	3	5	40-50	DS	100	2			GLV	EPM														
120	306	3	6	50-65	DS	89	2			RFL	PCC				3										
120	307	3	6	50-65	WS	11	2			RFL	PCC													1	0
120	308	3	7	65-66	DS	100	2			FLR	PCC				1										
120	309	3	8	66-81	WS	50	2	101	HT	FLR	PCC													343	0
120	310	3	8	66-81	DS	50	2	101	HT	FLR	PCC				1			2							
120	401	4	1	0-10	DS	100	2			GLV	NC														
120	402	4	2	10-20	DS	100	2			GLV	NC														
120	403	4	3	20-30	DS	100	2			GLV	NC														
120	404	4	4	30-40	DS	100	2			GLV	EPM														
120	405	4	5	40-50	DS	100	2			GLV	EPM														
120	406	4	6	50-65	DS	100	2			RFL	PCC														
120	407	4	7	65-67	DS	100	2			FLR	PCC							3							
120	408	4	7	65	NS	100	2	100	RR	OTR	NA														
120	501	5	1	0-10	NS	100	2			GLV	NC														
120	502	5	2	10-20	DS	100	2			GLV	NC														
120	503	5	3	20-30	DS	100	2			GLV	NC														
120	504	5	4	30-40	DS	100	2			GLV	EPM														
120	505	5	5	40-50	DS	100	2			GLV	EPM														
120	506	5	6	50-65	DS	89	2			RFL	PCC				2										
120	507	5	6	50-65	WS	11	2			RFL	PCC													9	2

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
120	601	6	1	0-10	NS	100	2			GLV	NC														
120	602	6	2	10-20	DS	100	2			GLV	EPM														
120	603	6	3	20-30	DS	100	2			GLV	EPM														
120	604	6	4	30-40	DS	100	2			GRF	PCC				1										
120	605	6	5	40-50	DS	100	2			RFL	PCC				1										
120	606	6	6	50-61	DS	100	2			RFL	PCC														
120	701	7	1	0-10	DS	100				GLV	NC														
120	702	7	2	10-20	DS	100				GLV	EPM														
120	703	7	3	20-30	DS	100				GLV	PCC				1										
120	704	7	4	30-40	DS	100				GLV	PCC				2										
120	705	7	5	40-50	DS	100				GLV	PCC				1										
120	706	7	6	50-60	DS	100				GLV	PCC				1										
120	707	7	7	60-70	DS	100				GLV	NC														
120	708	7	8	70-80	DS	100				GLV	NC														
120	801	8	1	0-10	DS	100				GLV	NC														
120	802	8	2	10-20	DS	100				GLV	EPM				1										
120	803	8	3	20-30	DS	100				GLV	PCC														
120	804	8	4	30-40	DS	100				GLV	NC														
120	805	8	5	40-50	DS	100				GLV	NC														
120	806	8	6	50-60	DS	100				GLV	NC														
120	807	8	7	60-70	DS	100				GLV	NC														
120	808	8	8	70-80	DS	100				GLV	EPM														
120	809	8	9	80-90	DS	100				GLV	NC														
120	810	8	10	90-100	DS	100				GLV	UKN														
120	811	8	11	100-110	DS	100				GLV	UKN														

TOTALS

G1AH	0.00
G2AH	0.00
G3AH	0.00
CLW	15.00
GTB	0.00
OTG	0.00
TML	5.00
ONM	0.00
EGL	0.00
ECR	0.00
EML	0.00
OREM	0.00
HFR	353.00
LFR	2.00

APPENDIX L

ARTIFACT INVENTORY DATA FOR THE CACHE SITE (39ST121)

39ST121 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39ST121 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

39ST121 — BONE SPECIMEN INVENTORY (DATA BASE 2) — WCRM/USACE 1987

08-29-89

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
121	101	1	1	0-10	DS	100				GLV	REC									
121	102	1	2	10-20	DS	100				GLV	NC									
121	103	1	3	20-30	DS	100				GLV	NC									
121	104	1	4	30-40	DS	100				GLV	NC									
121	105	1	5	40-50	DS	100				GLV	NC									
121	106	1	6	50-60	DS	100				GLV	NC			1						
121	107	1	7	60-70	DS	100				GLV	NC	26	2	5				3		
121	201	2	1	0-10	DS	100				GLV	NC			1						
121	202	2	2	10-20	DS	100				GLV	NC		7	9						
121	203	2	3	20-30	DS	100				GLV	NC			2						
121	204	2	4	30-40	DS	100				GLV	NC									

TOTALS

G1BN	26.00
G2BN	9.00
G3BN	18.00
G1BB	0.00
G2BB	0.00
G3BB	0.00
G13IB	3.00
G45IB	0.00
G15MB	0.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	61AH	62AH	63AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
121	101	1	1	0-10	DS	100				GLV	REC											1			
121	102	1	2	10-20	DS	100				GLV	NC														
121	103	1	3	20-30	DS	100				GLV	NC														
121	104	1	4	30-40	DS	100				GLV	NC														
121	105	1	5	40-50	DS	100				GLV	NC														
121	106	1	6	50-60	DS	100				GLV	NC														
121	107	1	7	60-70	DS	100				GLV	NC														
121	201	2	1	0-10	DS	100				GLV	NC														
121	202	2	2	10-20	DS	100				GLV	NC														
121	203	2	3	20-30	DS	100				GLV	NC														
121	204	2	4	30-40	DS	100				GLV	NC														

TOTALS

61AH	0.00
62AH	0.00
63AH	0.00
CLW	0.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	0.00
ECR	0.00
EML	1.00
OREM	0.00
HFR	0.00
LFR	0.00

APPENDIX M

ARTIFACT INVENTORY DATA FOR THE SITTING BUZZARD SITE (39ST122)

39ST122 -- NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) -- WCRM/USACE 1987

39ST122 -- BONE ARTIFACT INVENTORY (DATA BASE 2) -- WCRM/USACE 1987

39ST122 -- LITHIC ARTIFACT INVENTORY (DATA BASE 3) -- WCRM/USACE 1987

39ST122 -- MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) -- WCRM/USACE 1987

39ST122 -- MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) -- WCRM/USACE 1987

Note: Column headings and data values are explained in Appendices D and E.

39ST122 — NATIVE CERAMIC ARTIFACT INVENTORY (DATA BASE 1) — WCRM/USACE 1987)

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND
122	101	1	1	0-10	DS	100	1		OR	GLV	NC													
122	102	1	2	10-20	DS	100	1		OR	GLV	EPM													
122	103	1	3	20-30	DS	100	1		OR	GLV	EPM													
122	201	2	1	0-10	DS	100				GLV	PCC		1				1	1						
122	202	2	2	10-20	DS	100				GLV	PCC		13	21		2		6	3			2		2
122	203	2	3	20-30	DS	100				GLV	PCC		2	8				2						
122	204	2	4	30-40	DS	100				GLV	PCC			1										
122	205	2	5	40-50	DS	100				GLV	EPM													
122	206	2	6	50-60	DS	100				GLV	NC													
122	301	3	1	0-10	DS	100				GLV	NC													
122	302	3	2	10-20	DS	100				GLV	PCC			2										
122	303	3	3	20-30	DS	100				GLV	EPM													
122	304	3	4	30-40	DS	100				GLV	EPM													
122	305	3	5	40-50	DS	100				GLV	UKN													
122	306	3	6	50-60	DS	100				GLV	EPM													
122	307	3	7	60-70	DS	100				GLV	EPM													
122	308	3	8	70-80	DS	100				GLV	LPW													
122	309	3	9	80-90	DS	100				GLV	LPW													
122	310	3	10	90-100	DS	100				GLV	LPW													
122	401	4	1	0-10	DS	100				GLV	MIX			1										
122	402	4	2	10-20	DS	100				GLV	PCC			1		1								
122	403	4	3	20-30	DS	100				GLV	EPM													
122	404	4	4	30-40	DS	100				GLV	UKN													
122	405	4	5	40-50	DS	100				GLV	UKN													
122	406	4	6	50-60	DS	100				GLV	LPW													
122	407	4	7	60-70	DS	100				GLV	LPW													
122	408	4	8	70-80	DS	100				GLV	LPW													
122	501	5	1	0-10	DS	100				GLV	EPM													
122	502	5	2	10-20	DS	100				GLV	PCC		1	1				1						
122	503	5	3	20-30	DS	100				GLV	PCC		1	1					1					
122	504	5	4	30-40	DS	100				GLV	PCC													
122	505	5	5	40-50	DS	100				GLV	NC													
122	506	5	6	50-60	DS	100				GLV	NC													
122	601	6	1	0-10	DS	100				GLV	NC													
122	602	6	2	10-20	DS	100				GLV	NC													
122	603	6	3	20-30	DS	100				GLV	EPM													
122	604	6	4	30-40	DS	100				GLV	EPM													
122	605	6	5	40-50	DS	100				GLV	NC													
122	606	6	6	50-60	DS	100				GLV	NC													
122	607	6	7	60-70	DS	100				GLV	NC													
122	608	6	8	70-80	DS	100				GLV	NC													

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BS	G2BS	G3BS	G1RM	G2RM	G3RM	PLA	SIM	COR	CHE	BRU	DEC	IND

TOTALS

G1BS	0.00
G2BS	18.00
G3BS	36.00
G1RM	0.00
G2RM	3.00
G3RM	1.00
PLAINBS	10.00
SIMPLBS	4.00
CORDBS	0.00
CHECKBS	0.00
BRUSHBS	2.00
DECORBS	0.00
INDETBS	2.00

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB
122	101	1	1	0-10	DS	100	1		OR	GLV	NC									
122	102	1	2	10-20	DS	100	1		OR	GLV	EPM			1			1			
122	103	1	3	20-30	DS	100	1		OR	GLV	EPM			1						
122	201	2	1	0-10	DS	100				GLV	PCC			1						
122	202	2	2	10-20	DS	100				GLV	PCC	170	2	6				2		
122	203	2	3	20-30	DS	100				GLV	PCC	16	2	11			1			
122	204	2	4	30-40	DS	100				GLV	PCC		1	6			1			
122	205	2	5	40-50	DS	100				GLV	EPM			1						
122	206	2	6	50-60	DS	100				GLV	NC									
122	301	3	1	0-10	DS	100				GLV	NC									
122	302	3	2	10-20	DS	100				GLV	PCC									
122	303	3	3	20-30	DS	100				GLV	EPM			1						
122	304	3	4	30-40	DS	100				GLV	EPM			1						
122	305	3	5	40-50	DS	100				GLV	UKN		7	1						
122	306	3	6	50-60	DS	100				GLV	EPM			2						
122	307	3	7	60-70	DS	100				GLV	EPM									
122	308	3	8	70-80	DS	100				GLV	LPW	15	14	13			7			
122	309	3	9	80-90	DS	100				GLV	LPW	49	42	80		15	40			
122	310	3	10	90-100	DS	100				GLV	LPW			1			1			
122	401	4	1	0-10	DS	100				GLV	MIX									
122	402	4	2	10-20	DS	100				GLV	PCC			1						
122	403	4	3	20-30	DS	100				GLV	EPM		1	1						
122	404	4	4	30-40	DS	100				GLV	UKN	10	28	10			1			
122	405	4	5	40-50	DS	100				GLV	UKN			7			1			
122	406	4	6	50-60	DS	100				GLV	LPW		5	8			1			
122	407	4	7	60-70	DS	100				GLV	LPW	5	16	7			1			
122	408	4	8	70-80	DS	100				GLV	LPW		6	8			1			
122	501	5	1	0-10	DS	100				GLV	EPM			3						
122	502	5	2	10-20	DS	100				GLV	PCC		1	1						
122	503	5	3	20-30	DS	100				GLV	PCC			2				1		
122	504	5	4	30-40	DS	100				GLV	PCC		8	1				1		
122	505	5	5	40-50	DS	100				GLV	NC									
122	506	5	6	50-60	DS	100				GLV	NC									
122	601	6	1	0-10	DS	100				GLV	NC									
122	602	6	2	10-20	DS	100				GLV	NC									
122	603	6	3	20-30	DS	100				GLV	EPM		4	1						
122	604	6	4	30-40	DS	100				GLV	EPM		3	1						
122	605	6	5	40-50	DS	100				GLV	NC									
122	606	6	6	50-60	DS	100				GLV	NC									
122	607	6	7	60-70	DS	100				GLV	NC									
122	608	6	8	70-80	DS	100				GLV	NC			1						

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	G1BN	G2BN	G3BN	G1BB	G2BB	G3BB	G13IB	G45IB	G15MB

TOTALS

G1BN	265.00
G2BN	140.00
G3BN	178.00
G1BB	0.00
G2BB	15.00
G3BB	56.00
G13IB	4.00
G45IB	0.00
G15MB	0.00

39ST122 — LITHIC ARTIFACT INVENTORY (DATA BASE 3) — WCRM/USACE 1987

08-29-89

SNO	CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR
122	101	1	1	0-10	DS	100	1		OR	GLV	NC								
122	102	1	2	10-20	DS	100	1		OR	GLV	EPM								
122	103	1	3	20-30	DS	100	1		OR	GLV	EPM								
122	201	2	1	0-10	DS	100				GLV	PCC								
122	202	2	2	10-20	DS	100				GLV	PCC								
122	203	2	3	20-30	DS	100				GLV	PCC								
122	204	2	4	30-40	DS	100				GLV	PCC								2
122	205	2	5	40-50	DS	100				GLV	EPM								
122	206	2	6	50-60	DS	100				GLV	NC								
122	301	3	1	0-10	DS	100				GLV	NC								
122	302	3	2	10-20	DS	100				GLV	PCC								
122	303	3	3	20-30	DS	100				GLV	EPM								
122	304	3	4	30-40	DS	100				GLV	EPM								
122	305	3	5	40-50	DS	100				GLV	UKN								
122	306	3	6	50-60	DS	100				GLV	EPM								
122	307	3	7	60-70	DS	100				GLV	EPM				1				1
122	308	3	8	70-80	DS	100				GLV	LPW				2			11	9
122	309	3	9	80-90	DS	100				GLV	LPW	3			8				1
122	310	3	10	90-100	DS	100				GLV	LPW				2				
122	401	4	1	0-10	DS	100				GLV	MIX								
122	402	4	2	10-20	DS	100				GLV	PCC				1				
122	403	4	3	20-30	DS	100				GLV	EPM								
122	404	4	4	30-40	DS	100				GLV	UKN	1							
122	405	4	5	40-50	DS	100				GLV	UKN	1			1				
122	406	4	6	50-60	DS	100				GLV	LPW	1			4			10	6
122	407	4	7	60-70	DS	100				GLV	LPW	2			8			21	10
122	408	4	8	70-80	DS	100				GLV	LPW								3
122	501	5	1	0-10	DS	100				GLV	EPM								
122	502	5	2	10-20	DS	100				GLV	PCC								
122	503	5	3	20-30	DS	100				GLV	PCC								
122	504	5	4	30-40	DS	100				GLV	PCC								
122	505	5	5	40-50	DS	100				GLV	NC								
122	506	5	6	50-60	DS	100				GLV	NC								
122	601	6	1	0-10	DS	100				GLV	NC								
122	602	6	2	10-20	DS	100				GLV	NC								
122	603	6	3	20-30	DS	100				GLV	EPM								
122	604	6	4	30-40	DS	100				GLV	EPM								
122	605	6	5	40-50	DS	100				GLV	NC								
122	606	6	6	50-60	DS	100				GLV	NC								
122	607	6	7	60-70	DS	100				GLV	NC								
122	608	6	8	70-80	DS	100				GLV	NC								

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	STL	G1FK	G2FK	G3FK	G4FK	G1FCR	G2FCR	G3FCR

TOTALS

STL	8.00
G1FK	0.00
G2FK	0.00
G3FK	27.00
G4FK	0.00
G1FCR	0.00
G2FCR	42.00
G3FCR	32.00

39ST122 — MISCELLANEOUS 1 ARTIFACT INVENTORY (DATA BASE 4) — WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE
122	101	1	1	0-10	DS	100	1		OR	GLV	NC														
122	102	1	2	10-20	DS	100	1		OR	GLV	EPM														
122	103	1	3	20-30	DS	100	1		OR	GLV	EPM														
122	201	2	1	0-10	DS	100				GLV	PCC														
122	202	2	2	10-20	DS	100				GLV	PCC														1
122	203	2	3	20-30	DS	100				GLV	PCC													2	1
122	204	2	4	30-40	DS	100				GLV	PCC														2
122	205	2	5	40-50	DS	100				GLV	EPM														
122	206	2	6	50-60	DS	100				GLV	NC														
122	301	3	1	0-10	DS	100				GLV	NC														
122	302	3	2	10-20	DS	100				GLV	PCC														
122	303	3	3	20-30	DS	100				GLV	EPM														
122	304	3	4	30-40	DS	100				GLV	EPM														
122	305	3	5	40-50	DS	100				GLV	UKN														
122	306	3	6	50-60	DS	100				GLV	EPM														
122	307	3	7	60-70	DS	100				GLV	EPM														
122	308	3	8	70-80	DS	100				GLV	LPW														1
122	309	3	9	80-90	DS	100				GLV	LPW														1
122	310	3	10	90-100	DS	100				GLV	LPW														1
122	401	4	1	0-10	DS	100				GLV	MIX														
122	402	4	2	10-20	DS	100				GLV	PCC														
122	403	4	3	20-30	DS	100				GLV	EPM														
122	404	4	4	30-40	DS	100				GLV	UKN														
122	405	4	5	40-50	DS	100				GLV	UKN														
122	406	4	6	50-60	DS	100				GLV	LPW														
122	407	4	7	60-70	DS	100				GLV	LPW														1
122	408	4	8	70-80	DS	100				GLV	LPW														1
122	501	5	1	0-10	DS	100				GLV	EPM														
122	502	5	2	10-20	DS	100				GLV	PCC														
122	503	5	3	20-30	DS	100				GLV	PCC														1
122	504	5	4	30-40	DS	100				GLV	PCC														1
122	505	5	5	40-50	DS	100				GLV	NC														
122	506	5	6	50-60	DS	100				GLV	NC														
122	601	6	1	0-10	DS	100				GLV	NC														
122	602	6	2	10-20	DS	100				GLV	NC														
122	603	6	3	20-30	DS	100				GLV	EPM														
122	604	6	4	30-40	DS	100				GLV	EPM														
122	605	6	5	40-50	DS	100				GLV	NC														
122	606	6	6	50-60	DS	100				GLV	NC														
122	607	6	7	60-70	DS	100				GLV	NC														
122	608	6	8	70-80	DS	100				GLV	NC														

SNO	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1CR	G2CR	G3CR	G1SL	G2SL	G3SL	ISL	MSL	G1OR	G2OR	G3OR	G1BE	G2BE	G3BE

TOTALS

G1CR	0.00
G2CR	0.00
G3CR	0.00
G1SL	0.00
G2SL	0.00
G3SL	0.00
ISL	0.00
MSL	0.00
G1OR	0.00
G2OR	0.00
G3OR	0.00
G1BE	0.00
G2BE	2.00
G3BE	11.00

39ST122 — MISCELLANEOUS 2 ARTIFACT INVENTORY (DATA BASE 5) — WCRM/USACE 1987

08-29-89

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR
122	101	1	1	0-10	DS	100		1	OR	GLV	NC														
122	102	1	2	10-20	DS	100		1	OR	GLV	EPM														
122	103	1	3	20-30	DS	100		1	OR	GLV	EPM														
122	201	2	1	0-10	DS	100				GLV	PCC														
122	202	2	2	10-20	DS	100				GLV	PCC														
122	203	2	3	20-30	DS	100				GLV	PCC														
122	204	2	4	30-40	DS	100				GLV	PCC				1										
122	205	2	5	40-50	DS	100				GLV	EPM														
122	206	2	6	50-60	DS	100				GLV	NC														
122	301	3	1	0-10	DS	100				GLV	NC														
122	302	3	2	10-20	DS	100				GLV	PCC														
122	303	3	3	20-30	DS	100				GLV	EPM														
122	304	3	4	30-40	DS	100				GLV	EPM										1				
122	305	3	5	40-50	DS	100				GLV	UKN														
122	306	3	6	50-60	DS	100				GLV	EPM														
122	307	3	7	60-70	DS	100				GLV	EPM														
122	308	3	8	70-80	DS	100				GLV	LPW														
122	309	3	9	80-90	DS	100				GLV	LPW														
122	310	3	10	90-100	DS	100				GLV	LPW														
122	401	4	1	0-10	DS	100				GLV	MIX										3		2		
122	402	4	2	10-20	DS	100				GLV	PCC														
122	403	4	3	20-30	DS	100				GLV	EPM														
122	404	4	4	30-40	DS	100				GLV	UKN														
122	405	4	5	40-50	DS	100				GLV	UKN														
122	406	4	6	50-60	DS	100				GLV	LPW														
122	407	4	7	60-70	DS	100				GLV	LPW														
122	408	4	8	70-80	DS	100				GLV	LPW														
122	501	5	1	0-10	DS	100				GLV	EPM														
122	502	5	2	10-20	DS	100				GLV	PCC														
122	503	5	3	20-30	DS	100				GLV	PCC														
122	504	5	4	30-40	DS	100				GLV	PCC														
122	505	5	5	40-50	DS	100				GLV	NC														
122	506	5	6	50-60	DS	100				GLV	NC														
122	601	6	1	0-10	DS	100				GLV	NC														
122	602	6	2	10-20	DS	100				GLV	NC														
122	603	6	3	20-30	DS	100				GLV	EPM														
122	604	6	4	30-40	DS	100				GLV	EPM														
122	605	6	5	40-50	DS	100				GLV	NC														
122	606	6	6	50-60	DS	100				GLV	NC														
122	607	6	7	60-70	DS	100				GLV	NC														
122	608	6	8	70-80	DS	100				GLV	NC														

SND	CND	TN	LN	SD	RT	PES	HN	FND	FT	ACU	CHU	G1AH	G2AH	G3AH	CLW	GTB	OTG	TML	ONM	EGL	ECR	EML	OREM	HFR	LFR

TOTALS

G1AH	0.00
G2AH	0.00
G3AH	0.00
CLW	1.00
GTB	0.00
OTG	0.00
TML	0.00
ONM	0.00
EGL	4.00
ECR	0.00
EML	2.00
OREM	0.00
HFR	0.00
LFR	0.00

APPENDIX N

STONE TOOL CODING FORMAT, LIST OF LOCAL AND NONLOCAL LITHIC RESOURCES, AND LIST OF STONE TOOL DATA

Table N1. Stone Tool Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987

Table N2. List of Local and Nonlocal Lithic Resources for the Lake Sharpe Project Area, South Dakota.

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

Table N1. Stone Tool Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (abstracted from Ahler and Swenson 1985).

Field Label	Field Length	Field Code	Variable and Field Code Value
SITE AND PROVENIENCE DATA - SEE PROVENIENCE CODE (Appendix D, Table D1)			
DC	2.0	**	DESCRIPTIVE CATEGORY
		01	patterned triangular biface
		03	patterned notched biface
		09	patterned biface fragments
		14	unpatterned bifaces and nonbipolar cores and core-tools
		15	end scraper
		24	acutely pointed flake tool
		29	other retouched and modified flakes
		30	bipolar cores/tools
		34	unpatterned pecked/ground tools
		37	linearly grooved tools
		39	patterned complex ground stone tools
CPNO	4.0	****	COMPUTER NUMBER (SEQUENCE NUMBER) sequential from 0001 in each descriptive category for each site.
TC	2.0	**	TECHNOLOGICAL CLASS
		1	small thin patterned biface
		2	large thin patterned biface
		3	irregular unpatterned biface
		4	patterned flake tool
		5	unpatterned flake tool
		6	thick bifacial core-tool
		7	nonbipolar core or core-tool
		8	bipolar core/tool
		9	unpatterned pecked/ground tool
		0	patterned pecked/ground tool
MC	2.0	**	MORPHOLOGICAL CLASS
		01	late prehistoric triangular (arrow point)
		02	late prehistoric side-notched (arrow point)
		31	ovoid unpointed
		32	ovoid pointed
		36	pointed fragment
		37	irregular
		38	edge fragment or segment
		39	ovoid fragment
		44	flake with one edge
		45	flake with two edges
		50	complex pecked or ground tool

Table N1. Stone Tool Coding Format, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (abstracted from Ahler and Swenson 1985) (Continued).

Field Label	Field Length	Field Code	Variable and Field Code Value
FC	2.0	**	FUNCTIONAL CLASS
		00	unknown/indeterminate
		01	projectile point
		03	light duty bilateral cutting tool
		06	light duty transverse scraper used on soft material
		07	bilateral heavy duty 1 bifacial cutting tool
		08	expedient general purpose cutting tool
		12	bifacial cutting tool used on hard material
		13	lateral scraper used on soft material
		14	heavy duty chopping/pounding tool
		15	generalized patterned bifacial cutting tool
		17	transverse scraper used on hard materials
		18	denticulated flake tool
		19	slotting/grooving tool (beak)
		20	generalized transverse scraping tool
		21	core
		22	utilized flake used to saw/slice hard material
		23	retouched or utilized flake used on variable material
		25	core/punch/wedge/chisel
		26	punch/wedge/chisel
		28	bipolar hammer or anvil
		29	hammerstone or pounder
		33	simple hand-held abrading tool
		34	simple hand-held grooved abrading tool
		35	complex hand-held grinding/crushing tool (mono)
		36	complex anvil used in grinding/crushing (metate/mortar)
UP	2.0	**	USE-PHASE CLASS
		1	unfinished, unbroken, usable
		2	unfinished, broken or rejected
		3	finished, unbroken, usable
		4	finished, broken or rejected
RM	2.0	**	RAW MATERIAL TYPE - see Table N2
MP	2.0	**	MULTIPURPOSE
		0	single function tool
		1	double function tool
		2	triple function tool
WT	6.1	******	WEIGHT to the nearest 0.1 g

Table N2. List of Local and Nonlocal Lithic Resources for the Lake Sharpe Project Area, South Dakota (abstracted from Ahler 1989; Toom 1984a; supplemented from Ahler 1977a; Ahler and Swenson 1985).

Resource Group and Lithic Raw Material Type*	Source/Location Relative to Lake Sharpe
Local Resource Group	
02 Coarse Yellow Tongue River Silicified Sediment (TRSS)	Local glacial-fluvial gravels.
03 Coarse Red Tongue River Silicified Sediment (TRSS)	Local glacial-fluvial gravels; likely a thermally altered version of coarse yellow TRSS (Ahler 1989).
04 Solid Quartzite	Local glacial-fluvial gravels.
05 Porous Quartzite (Swan River Chert)	Local glacial-fluvial gravels.
06 Jasper/Chert	Local glacial-fluvial gravels; includes Chadron chert.
08 Clear/Gray Chalcedony	Local glacial-fluvial gravels.
09 Yellow or Light Brown Chalcedony	Local glacial-fluvial gravels.
10 Dark Brown Chalcedony	Local glacial-fluvial gravels.
13 Basaltic	Local glacial-fluvial gravels.
16 Quartz	Local glacial-fluvial gravels.
19 Granitic	Local glacial-fluvial gravels.
21 Compact Sandstone	Local glacial-fluvial gravels.
23 Natural Clinker	Local "float" material or alternatively from the nonlocal northern resource group (cf. Porcellanite).
27 Gypsum	Local Pierre Shale bedrock exposures.
35 Other Quartzite	Local glacial-fluvial gravels.
37 Siltstone/Limestone/ Mudstone/Pierre Shale	Local glacial-fluvial gravels; local Pierre Shale bedrock exposures.

*Numbers indicate computer code value.

Table N2. List of Local and Nonlocal Lithic Resources for the Lake Sharpe Project Area, South Dakota (abstracted from Ahler 1989; Toom 1984a; supplemented from Ahler 1977a; Ahler and Swenson 1985) (Continued).

Resource Group and Lithic Raw Material Type*	Source/Location Relative to Lake Sharpe
Nonlocal - Northern Resource Group	
01 Smooth Gray Tongue River Silicified Sediment (TRSS)	Northwest South Dakota and southwest North Dakota; may be locally available in small quantities.
15 Bijou Hill Silicified Sediment (BHSS)	North-central South Dakota; also occurs to the south in the southern resource group. Materials in the Lake Sharpe area likely derive from the southern sources.
17 Porcellanite	Western North Dakota, northwestern South Dakota, eastern Montana, northeastern Wyoming.
28 Knife River Flint (KRF)	Mercer and Dunn counties, North Dakota; may be locally available in small quantities.
29 Waxy Brown Chert (Rainy Butte Silicified Wood)	Southwestern North Dakota.
36 Scoria	Occurs with Porcellanite as a by-product of naturally burned lignite or coal.
40 Non-Volcanic Natural Glass	Occurs with Porcellanite as a by-product of naturally burned lignite or coal.
Nonlocal - Western Resource Group	
07 Flattop Chalcedony	Southwestern South Dakota (Big Badlands area), northeastern Colorado, western Nebraska.
11 Plate Chalcedony	Southwestern South Dakota (Big Badlands area).
Nonlocal - Southern Resource Group	
15 Bijou Hills Silicified Sediment (BHSS)	Bijou Hills of south-central South Dakota; also occurs to the north in the northern resource group. Materials in the Lake Sharpe area likely derive from the nearby southern sources.

*Numbers indicate computer code value.

Table N2. List of Local and Nonlocal Lithic Resources for the Lake Sharpe Project Area, South Dakota (abstracted from Ahler 1989; Toom 1984a; supplemented from Ahler 1977a; Ahler and Swenson 1985) (Continued).

Resource Group and Lithic Raw Material Type*	Source/Location Relative to Lake Sharpe
Nonlocal - Eastern Group	
24 Catlinite (Red Pipe Stone)	Southwestern Minnesota and adjacent areas.
Nonlocal - Far Western Group	
18 Obsidian	Rocky Mountains (Yellowstone National Park, Wyoming); possible Black Hills sources as well (western resource group).
38 Steatite	Rocky Mountains.
Miscellaneous/Unknown Resource Group	
12 Burnt Chalcedony	Catch-all for chalcedony-like stone that cannot be more specifically identified because of burning.
14 Other	Unclassifiable.
20 Coarse Porous Sandstone	Source unknown; presumed nonlocal.
22 Fossil or Concretion	Local Pierre Shale bedrock or nonlocal.
25 Hematite	Source unknown; presumed nonlocal.
26 Limonite	Source unknown; presumed nonlocal.
30 Gray-Green Chert	Source unknown; presumed local gravels.
31 Blonde French Flint	European, historic period gunflints.
32 Thames River (Dover) Flint	European, historic period gunflints.
33 Light Yellow Pigment	Source unknown; presumed nonlocal.
34 Glass	Euroamerican dervied, historic period.

*Numbers indicate computer code value.

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987.

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
West Bend Site (39HU83) Tool Data																			
501	5	1	0-10	DS	100				GLV	EC	09	0001	2	37	15	2	11	0	12.0
402	4	2	10-20	DS	100				GLV	EC	14	0001	3	38	08	4	01	0	6.4
402	4	2	10-20	DS	100				GLV	EC	14	0002	3	38	08	4	05	0	3.5
501	5	1	0-10	DS	100				GLV	EC	14	0003	3	38	08	4	06	0	5.6
502	5	2	10-20	DS	100				GLV	EC	14	0004	7	37	21	4	04	0	11.2
801	8	1	0-10	DS	100				GLV	MIX	14	0005	3	38	08	4	02	0	19.0
601	6	1	0-10	DS	100				GLV	MIX	24	0001	4	32	19	3	15	1	16.4
601	6	1	0-10	DS	100				GLV	MIX	24	0001	4	32	22	3	15	1	16.1
403	4	3	20-30	DS	100				GLV	EC	29	0001	5	37	23	4	09	0	1.6
603	6	3	20-30	DS	100				GLV	EC	29	0002	5	45	18	4	15	1	17.8
603	6	3	20-30	DS	100				GLV	EC	29	0002	5	45	22	4	15	1	17.8
801	8	1	0-10	DS	100				GLV	MIX	29	0003	5	44	18	4	06	0	14.8
803	8	3	20-30	DS	100				GLV	EC	29	0004	5	44	17	3	02	0	17.6
Antelope Dreamer Site (39LM146) Tool Data																			
510	5	6	50-60	DS	89	11			ORF	IMM	03	0001	1	02	01	4	08	1	0.4
510	5	6	50-60	DS	89	11			ORF	IMM	03	0001	1	02	07	4	08	1	0.4
526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	03	0002	1	02	01	2	08	0	1.5
914	9	8	65-70	DS	89	15			IRF	IMM	03	0003	1	02	01	3	04	0	1.0
315	3	8	60-70	WS	11	15			IRF	IMM	09	0001	1	36	01	2	06	0	0.1
514	5	8	70-80	DS	89	11			ORF	IMM	09	0002	2	38	15	4	08	0	0.9
515	5	8	70-80	WS	11	11			ORF	IMM	09	0003	2	35	03	4	10	0	1.2
623	6	12	110-125	WS	11	11			RFL	IMM	09	0004	2	38	15	4	05	0	0.8
614	6	8	70-80	DS	89	11			ORF	IMM	09	0005	2	38	15	4	05	0	2.4
828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	09	0006	2	36	07	4	12	0	0.6
916	9	9	70-75	DS	89	15			RFL	IMM	09	0007	1	38	01	4	12	0	0.2
917	9	9	70-75	WS	11	15			RFL	IMM	09	0008	2	38	15	4	28	0	0.8
522	5	12	110-125	DS	89	11			RFL	IMM	14	0001	6	37	14	3	13	0	498.3
522	5	12	110-125	DS	89	11			RFL	IMM	14	0002	3	37	12	4	05	0	29.6
627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	14	0003	3	37	08	3	05	0	106.1
723	7	12	110-128	WS	11	11			RFL	IMM	14	0004	3	37	12	3	28	0	30.1
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	14	0005	3	37	12	4	05	0	28.4
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	14	0006	3	38	08	4	05	0	1.6
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	14	0007	3	37	08	4	12	0	7.4
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	14	0008	7	37	21	3	05	0	598.0
822	8	12	110-125	DS	89	11			RFL	IMM	14	0009	3	37	08	4	28	0	4.3
108	1	8	70-80	DS	100				GLV	IMM	15	0001	4	39	17	4	05	0	1.5
203	2	3	20-30	DS	100				GLV	IMM	15	0002	4	31	06	3	07	0	6.4
514	5	8	70-80	DS	89	11			ORF	IMM	15	0003	4	31	17	4	28	0	4.6
522	5	12	110-125	DS	89	11			RFL	IMM	15	0004	4	31	17	3	28	0	10.0
522	5	12	110-125	DS	89	11			RFL	IMM	15	0005	4	31	20	4	05	0	14.9
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	15	0006	4	38	20	4	28	0	1.3
107	1	7	60-70	DS	100				GLV	IMM	29	0001	5	45	23	4	05	1	18.2
107	1	7	60-70	DS	100				GLV	IMM	29	0001	5	45	18	4	05	1	18.2
203	2	3	20-30	DS	100				GLV	IMM	29	0002	5	44	23	4	28	0	9.4

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
Antelope Dreamer Site (39LM146) Tool Data (Continued)																			
203	2	3	20-30	DS	100				GLV	IMM	29	0003	5	45	22	4	28	1	4.6
203	2	3	20-30	DS	100				GLV	IMM	29	0003	5	45	22	4	28	1	4.6
203	2	3	20-30	DS	100				GLV	IMM	29	0004	5	44	22	3	28	0	5.2
203	2	3	20-30	DS	100				GLV	IMM	29	0005	5	44	06	4	08	0	10.3
205	2	5	40-50	DS	100				GLV	EPM	29	0006	5	45	22	4	06	2	15.0
205	2	5	40-50	DS	100				GLV	EPM	29	0006	5	45	23	4	06	2	15.0
205	2	5	40-50	DS	100				GLV	EPM	29	0006	5	45	19	4	06	2	15.0
304	3	3	20-30	DS	89	15			ORF	IMM	29	0007	5	44	23	3	06	0	33.3
304	3	3	20-30	DS	89	15			ORF	IMM	29	0008	5	44	23	4	01	0	2.1
317	3	9	70-80	WS	11	15			RFL	IMM	29	0009	5	44	23	4	28	0	1.1
506	5	4	30-40	DS	89	11			GLV	EPM	29	0010	5	44	22	4	07	0	0.8
514	5	8	70-80	DS	89	11			ORF	IMM	29	0011	5	44	22	3	08	0	0.9
515	5	8	70-80	WS	11	11			ORF	IMM	29	0012	5	44	23	4	15	0	1.2
515	5	8	70-80	WS	11	11			ORF	IMM	29	0013	5	45	23	4	28	1	2.0
515	5	8	70-80	WS	11	11			ORF	IMM	29	0013	5	45	23	4	28	1	2.0
516	5	9	80-90	DS	89	11			ORF	IMM	29	0014	5	44	22	4	28	0	2.4
520	5	11	100-110	DS	89	11			IRF	IMM	29	0015	5	44	22	3	05	0	13.4
520	5	11	100-110	DS	89	11			IRF	IMM	29	0016	5	44	06	4	05	0	11.4
522	5	12	110-125	DS	89	11			RFL	IMM	29	0017	5	44	06	4	05	0	9.1
522	5	12	110-125	DS	89	11			RFL	IMM	29	0018	5	45	22	4	15	1	11.2
522	5	12	110-125	DS	89	11			RFL	IMM	29	0018	5	45	23	4	15	1	11.2
522	5	12	110-125	DS	89	11			RFL	IMM	29	0019	5	44	22	3	05	0	52.0
522	5	12	110-125	DS	89	11			RFL	IMM	29	0020	5	44	22	4	05	0	5.2
522	5	12	110-125	DS	89	11			RFL	IMM	29	0021	5	45	22	3	05	1	43.3
522	5	12	110-125	DS	89	11			RFL	IMM	29	0021	5	45	22	3	05	1	43.3
522	5	12	110-125	DS	89	11			RFL	IMM	29	0022	5	44	22	3	05	0	18.2
522	5	12	110-125	DS	89	11			RFL	IMM	29	0023	5	44	22	4	05	0	0.8
524	5	12	110-118	WS	100	11	107	AC	FLR	IMM	29	0024	5	44	22	4	04	0	1.5
526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	29	0025	5	44	23	3	28	0	3.8
610	6	6	50-60	DS	89	11			ORF	IMM	29	0026	5	44	23	4	28	0	0.5
621	6	11	100-110	WS	11	11			IRF	IMM	29	0027	5	45	22	4	15	1	7.7
621	6	11	100-110	WS	11	11			IRF	IMM	29	0027	5	45	22	4	15	1	7.7
622	6	12	110-125	DS	89	11			RFL	IMM	29	0028	5	45	23	4	05	1	2.2
622	6	12	110-125	DS	89	11			RFL	IMM	29	0028	5	45	23	4	05	1	2.2
627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	29	0029	5	45	23	3	04	1	24.7
627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	29	0029	5	45	22	3	04	1	24.7
716	7	9	80-90	DS	89	11			ORF	IMM	29	0030	5	44	22	4	35	0	0.3
722	7	12	110-128	DS	89	11			RFL	IMM	29	0031	5	44	22	4	16	0	2.3
723	7	12	110-128	WS	11	11			RFL	IMM	29	0032	5	44	22	4	05	0	6.9
723	7	12	110-128	WS	11	11			RFL	IMM	29	0033	5	44	22	4	05	0	11.5
811	8	6	50-60	WS	11	11			ORF	IMM	29	0034	5	44	22	4	15	0	0.7
818	8	10	90-100	DS	89	11			IRF	IMM	29	0035	5	45	23	3	06	1	2.7
818	8	10	90-100	DS	89	11			IRF	IMM	29	0035	5	45	23	3	06	1	2.7
828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	29	0036	5	44	23	3	28	0	0.8
822	8	12	110-125	DS	89	11			RFL	IMM	29	0037	5	44	22	4	05	0	2.2
822	8	12	110-125	DS	89	11			RFL	IMM	29	0038	5	44	17	4	07	0	11.3

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
Antelope Dreamer Site (39LM146) Tool Data (Continued)																			
828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	29	0039	5	45	23	4	28	1	1.0
828	8	13	125-152	DS	100	11	116	HT	FLR	IMM	29	0039	5	45	23	4	28	1	1.0
904	9	3	20-30	DS	89	15			ORF	IMM	29	0040	5	44	22	4	28	0	1.3
904	9	3	20-30	DS	89	15			ORF	IMM	29	0041	5	44	22	4	28	0	0.7
904	9	3	20-30	DS	89	15			ORF	IMM	29	0042	5	44	23	4	05	0	5.0
910	9	6	45-55	DS	89	15			IRF	IMM	29	0043	5	44	23	4	06	0	0.7
914	9	8	65-70	DS	89	15			IRF	IMM	29	0044	5	45	22	3	04	1	10.2
914	9	8	65-70	DS	89	15			IRF	IMM	29	0044	5	45	22	3	04	1	10.2
916	9	9	70-75	DS	89	15			RFL	IMM	29	0045	5	44	22	3	35	0	8.7
522	5	12	110-125	DS	89	11			RFL	IMM	29	0046	5	45	22	4	15	1	11.8
522	5	12	110-125	DS	89	11			RFL	IMM	29	0046	5	45	22	4	15	1	11.8
316	3	9	70-80	DS	89	15			RFL	IMM	30	0001	8	37	21	3	08	0	25.4
506	5	4	30-40	DS	89	11			GLV	EPM	30	0002	8	37	21	4	08	0	11.0
514	5	8	70-80	DS	89	11			ORF	IMM	30	0003	8	37	21	4	05	0	20.0
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	30	0004	8	37	25	3	06	0	22.7
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	30	0005	8	37	21	4	16	0	4.5
912	9	7	55-65	DS	89	15			IRF	IMM	30	0006	8	37	21	4	08	0	8.9
300	3	1	0-10	DS	89	15			GLV	EPM	34	0001	9	37	00	4	21	0	1.1
306	3	4	30-40	DS	89	15			ORF	IMM	34	0002	9	37	35	4	19	0	955.9
306	3	4	30-40	DS	89	15			ORF	IMM	34	0003	9	37	36	4	19	0	753.8
314	3	8	60-70	DS	89	15			IRF	IMM	34	0004	9	37	33	3	23	1	56.6
314	3	8	60-70	DS	89	15			IRF	IMM	34	0004	9	37	34	3	23	1	56.6
514	5	8	70-80	DS	89	11			ORF	IMM	34	0005	9	37	29	3	19	0	1621.5
517	5	9	80-90	WS	11	11			ORF	IMM	34	0006	9	37	33	4	23	0	4.9
522	5	12	110-125	DS	89	11			RFL	IMM	34	0008	9	37	36	3	19	0	5000.0
522	5	12	110-125	DS	89	11			RFL	IMM	34	0009	9	37	33	3	23	1	94.7
522	5	12	110-125	DS	89	11			RFL	IMM	34	0009	9	37	34	3	23	1	94.7
522	5	12	110-125	DS	89	11			RFL	IMM	34	0010	9	37	35	3	19	0	1527.4
526	5	13	123-142	WS	100	11	116	HT	FLR	IMM	34	0011	9	37	28	3	19	0	867.8
614	6	8	70-80	DS	89	11			ORF	IMM	34	0012	9	37	36	4	19	0	1256.8
616	6	9	80-90	DS	89	11			ORF	IMM	34	0013	9	37	36	4	19	0	560.3
616	6	9	80-90	DS	89	11			ORF	IMM	34	0014	9	37	29	3	13	0	106.8
627	6	13	124-142	WS	100	11	116	HT	FLR	IMM	34	0015	9	37	29	3	13	0	92.8
718	7	10	90-100	DS	89	11			IRF	IMM	34	0016	9	37	29	3	19	0	747.9
723	7	12	110-128	WS	11	11			RFL	IMM	34	0017	9	37	28	3	19	1	527.5
723	7	12	110-128	WS	11	11			RFL	IMM	34	0017	9	37	29	3	19	1	527.5
816	8	9	80-90	DS	89	11			ORF	IMM	34	0018	9	37	29	3	20	0	221.2
816	8	9	80-90	DS	89	11			ORF	IMM	34	0019	9	37	35	4	19	0	1016.3
818	8	10	90-100	DS	89	11			IRF	IMM	34	0020	9	37	36	4	19	0	381.3
910	9	6	45-55	DS	89	15			IRF	IMM	34	0021	9	37	29	3	19	1	1243.8
910	9	6	45-55	DS	89	15			IRF	IMM	34	0021	9	37	35	3	19	1	1243.8
916	9	9	70-75	DS	89	15			RFL	IMM	34	0022	9	37	28	3	19	1	978.1
916	9	9	70-75	DS	89	15			RFL	IMM	34	0022	9	37	35	3	19	1	978.1
726	7	13	125-152	DS	100	11	116	HT	FLR	IMM	37	0001	9	37	34	3	23	0	65.1
520	5	11	100-110	DS	89	11			IRF	IMM	39	0001	0	50	00	4	19	0	4.1

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
Windy Mounds Site (39LM149) Stone Tool Data																			
205	2	5	40-50	DS	100		2	MD	SBM	LPW	03	0001	1	02	01	3	08	0	0.3
102	1	2	10-20	DS	100		1	MD	MDF	LPW	14	0001	3	37	08	4	08	0	5.5
105	1	5	40-50	DS	100		1	MD	SBM	LPW	14	0002	3	37	08	4	13	0	60.7
203	2	3	20-30	DS	100		2	MD	MDF	LPW	14	0003	3	37	08	4	06	0	7.0
205	2	5	40-50	DS	100		2	MD	SBM	LPW	14	0004	3	37	08	4	05	0	8.2
302	3	2	10-20	DS	100				GLV	LPW	14	0005	7	37	21	4	05	0	94.4
101	1	1	0-10	DS	100		1	MD	MDF	LPW	29	0001	5	45	23	3	13	1	20.0
101	1	1	0-10	DS	100		1	MD	MDF	LPW	29	0001	5	45	22	3	13	1	20.0
103	1	3	20-30	DS	100		1	MD	MDF	LPW	29	0002	5	44	23	4	08	0	1.8
201	2	1	0-10	DS	100		2	MD	MDF	LPW	29	0003	5	44	23	3	04	0	5.2
202	2	2	10-20	DS	100		2	MD	MDF	LPW	29	0004	5	44	23	4	05	0	5.4
203	2	3	20-30	DS	100		2	MD	MDF	LPW	29	0005	5	44	23	3	08	0	6.6
204	2	4	30-40	DS	100		2	MD	MDF	LPW	29	0006	5	44	22	3	05	0	8.8
205	2	5	40-50	DS	100		2	MD	SBM	LPW	29	0007	5	45	22	3	06	1	6.1
205	2	5	40-50	DS	100		2	MD	SBM	LPW	29	0007	5	45	22	3	06	1	6.1
201	2	1	0-10	DS	100		2	MD	MDF	LPW	30	0001	8	37	25	3	08	0	8.2
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0002	8	37	25	4	06	0	4.7
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0003	8	37	25	4	09	0	2.6
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0004	8	37	25	4	06	0	3.5
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0005	8	37	25	4	08	0	2.1
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0006	8	37	25	4	06	0	1.9
202	2	2	10-20	DS	100		2	MD	MDF	LPW	30	0007	8	37	26	3	09	0	7.0
203	2	3	20-30	DS	100		2	MD	MDF	LPW	30	0008	8	37	31	4	08	0	7.6
Betty Bite Off Site (39LM156) Stone Tool Data																			
307	3	7	60-70	DS	100				GLV	ERC	09	0001	2	38	15	2	11	0	0.9
308	3	8	70-80	DS	100				GLV	ERC	09	0002	2	38	15	2	11	0	1.3
308	3	8	70-80	DS	100				GLV	ERC	09	0003	2	38	15	4	11	0	1.3
308	3	8	70-80	DS	100				GLV	ERC	09	0004	2	38	15	4	11	0	0.6
112	1	12	110-120	DS	100				GLV	ERC	15	0001	4	38	17	4	28	1	0.8
112	1	12	110-120	DS	100				GLV	ERC	15	0001	8	37	26	3	28	1	0.8
107	1	7	60-70	DS	100				GLV	LTC	29	0001	5	44	22	3	04	0	4.0
110	1	10	90-100	DS	100				GLV	ERC	29	0002	5	44	22	4	05	0	3.4
211	2	11	100-110	DS	100				GLV	ERC	29	0003	5	44	23	4	10	0	1.3
308	3	8	70-80	DS	100				GLV	ERC	29	0004	5	44	23	4	06	0	0.7
308	3	8	70-80	DS	100				GLV	ERC	29	0005	5	45	23	3	04	1	0.9
308	3	8	70-80	DS	100				GLV	ERC	29	0005	5	45	23	3	04	1	0.9
308	3	8	70-80	DS	100				GLV	ERC	29	0006	5	44	23	4	06	0	0.9
309	3	9	80-90	DS	100				GLV	ERC	29	0007	5	44	23	3	28	0	3.6
110	1	10	90-100	DS	100				GLV	ERC	30	0001	8	37	25	4	06	0	4.1
211	2	11	100-110	DS	100				GLV	ERC	30	0002	8	37	25	4	07	0	1.3
211	2	11	100-110	DS	100				GLV	ERC	30	0003	8	37	25	4	08	0	0.9
211	2	11	100-110	DS	100				GLV	ERC	30	0004	8	37	25	4	05	0	1.8
211	2	11	100-110	DS	100				GLV	ERC	30	0005	8	37	25	4	09	0	0.6

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
Betty Bite Off Site (39LM156) Stone Tool Data (Continued)																			
211	2	11	100-110	DS	100				GLV	ERC	30	0006	8	37	25	4	28	0	3.0
211	2	11	100-110	DS	100				GLV	ERC	30	0007	8	37	25	4	01	0	0.1
110	1	10	90-100	DS	100				GLV	ERC	30	0008	8	37	25	4	06	0	2.0
Buzzing Yucca Site (39LM166) Stone Tool Data																			
206	2	5	43-52	DS	89	5	100	HT	FLR	EC	01	0002	1	01	01	2	04	0	0.8
601	6	1	0-10	DS	100	6			GLV	MIX	03	0001	1	02	01	4	08	0	0.7
605	6	5	35-58	DS	100	6	101	HT	FLR	EC	03	0002	1	02	01	4	08	0	1.5
106	1	5	43-59	DS	100	5	100	HT	FLR	EC	09	0001	2	31	07	4	15	0	5.9
204	2	4	30-43	DS	89	5			RFL	EC	09	0002	2	38	15	4	11	0	0.1
204	2	4	30-43	DS	89	5			RFL	EC	09	0003	2	38	15	4	11	0	2.2
104	1	4	30-43	DS	89	5			RFL	EC	14	0001	3	37	08	3	37	0	73.1
104	1	4	30-43	DS	89	5			RFL	EC	14	0002	3	37	19	3	10	0	10.6
301	3	1	0-10	DS	100				GLV	EC	14	0003	3	37	08	3	06	0	11.1
204	2	4	30-43	DS	89	5			RFL	EC	15	0001	4	38	20	4	06	0	0.6
104	1	4	30-43	DS	89	5			RFL	EC	29	0001	5	44	22	4	04	0	1.7
104	1	4	30-43	DS	89	5			RFL	EC	29	0002	5	44	22	4	04	0	5.1
106	1	5	43-59	DS	100	5	100	HT	FLR	EC	29	0003	5	44	22	3	28	0	1.0
203	2	3	20-30	DS	100	5			GRF	EC	29	0004	5	44	22	3	08	0	0.9
204	2	4	30-43	DS	89	5			RFL	EC	29	0005	5	44	22	3	06	0	12.3
206	2	5	43-52	DS	89	5	100	HT	FLR	EC	29	0006	5	45	22	4	04	1	5.8
206	2	5	43-52	DS	89	5	100	HT	FLR	EC	29	0006	5	45	22	4	04	1	5.8
206	2	5	43-52	DS	89	5	100	HT	FLR	EC	29	0007	5	44	22	4	15	0	2.3
206	2	5	43-52	DS	89	5	100	HT	FLR	EC	29	0008	5	44	22	4	04	0	1.6
301	3	1	0-10	DS	100				GLV	EC	29	0010	5	45	22	4	04	1	6.3
301	3	1	0-10	DS	100				GLV	EC	29	0010	5	45	22	4	04	1	6.3
301	3	1	0-10	DS	100				GLV	EC	29	0011	5	45	22	4	05	1	5.0
301	3	1	0-10	DS	100				GLV	EC	29	0011	5	45	23	4	05	1	5.0
301	3	1	0-10	DS	100				GLV	EC	29	0012	5	44	22	3	06	0	1.8
301	3	1	0-10	DS	100				GLV	EC	29	0013	5	44	23	4	04	0	1.3
301	3	1	0-10	DS	100				GLV	EC	29	0014	5	44	22	4	04	0	2.8
301	3	1	0-10	DS	100				GLV	EC	29	0015	5	45	22	4	15	1	1.8
301	3	1	0-10	DS	100				GLV	EC	29	0015	5	45	22	4	15	1	1.8
302	3	2	10-20	DS	100				GLV	EC	29	0016	5	44	23	4	06	0	2.4
303	3	3	20-32	DS	100				GLV	EC	29	0017	5	44	22	4	04	0	0.7
402	4	2	10-20	DS	100				GLV	EC	29	0018	5	44	22	4	05	0	1.2
603	6	3	20-30	DS	100	6			ORF	EC	29	0019	5	44	22	4	08	0	0.6
604	6	4	30-37	DS	100	6			RFL	EC	29	0020	5	44	22	4	15	0	1.6
604	6	4	30-37	DS	100	6			RFL	EC	29	0021	5	44	22	4	04	0	1.0
605	6	5	35-58	DS	100	6	101	HT	FLR	EC	29	0022	5	44	22	4	04	0	2.0
701	7	1	0-10	DS	100				GLV	EC	29	0023	5	45	22	4	35	1	6.0
701	7	1	0-10	DS	100				GLV	EC	29	0023	5	45	22	4	35	1	6.0
701	7	1	0-10	DS	100				GLV	EC	29	0024	5	44	22	4	04	0	0.7
701	7	1	0-10	DS	100				GLV	EC	29	0025	5	44	22	4	15	0	1.0
702	7	2	10-20	DS	100				GLV	EC	29	0026	5	44	22	4	15	0	0.6

Table N3. List of Recorded Stone Tool Data by Site, Lake Sharpe Testing Project, South Dakota, WCRM, 1987 (Continued).

CNO	TN	LN	SD	RT	PES	HN	FNO	FT	ACU	CHU	DC	CPNO	TC	MC	FC	UP	RM	MP	WT
Ghost Lodge Site (39ST120) Stone Tool Data																			
309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	09	0001	2	38	13	4	11	0	7.5
309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	14	0001	3	37	08	4	03	0	10.3
310	3	8	66-81	DS	50	2	101	HT	FLR	PCC	14	0002	3	37	08	4	06	0	8.2
506	5	6	50-65	DS	89	2			RFL	PCC	14	0003	3	37	08	3	37	0	93.5
606	6	6	50-61	DS	100	2			RFL	PCC	14	0004	3	37	08	3	19	0	142.0
606	6	6	50-61	DS	100	2			RFL	PCC	14	0005	3	37	06	3	15	0	32.4
309	3	8	66-81	WS	50	2	101	HT	FLR	PCC	15	0001	4	31	17	4	06	0	7.7
406	4	6	50-65	DS	100	2			RFL	PCC	29	0001	5	44	23	4	06	0	1.0
310	3	8	66-81	DS	50	2	101	HT	FLR	PCC	30	0001	8	37	25	4	06	0	.1
306	3	6	50-65	DS	89	2			RFL	PCC	34	0001	9	37	33	4	21	0	20.4
Sitting Buzzard Site (39ST122) Stone Tool Data																			
407	4	7	60-70	DS	100				GLV	LPW	01	0001	1	01	01	2	08	0	0.5
406	4	6	50-60	DS	100				GLV	LPW	03	0001	1	02	01	4	28	0	0.3
407	4	7	60-70	DS	100				GLV	LPW	03	0002	1	02	01	2	10	0	0.6
309	3	9	80-90	DS	100				GLV	LPW	29	0001	5	44	23	4	06	0	1.6
309	3	9	80-90	DS	100				GLV	LPW	29	0002	5	45	23	4	07	1	1.7
309	3	9	80-90	DS	100				GLV	LPW	29	0002	5	45	22	4	07	1	1.7
404	4	4	30-40	DS	100				GLV	UKN	29	0003	5	45	22	4	04	1	11.0
404	4	4	30-40	DS	100				GLV	UKN	29	0003	5	45	22	4	04	1	11.0
405	4	5	40-50	DS	100				GLV	UKN	29	0004	5	44	23	3	06	0	1.1
309	3	9	80-90	DS	100				GLV	LPW	30	0001	8	37	25	4	08	0	5.6

APPENDIX O

PERTINENT PROJECT DOCUMENTS AND CORRESPONDENCE

U.S. Army Corps of Engineers, Omaha District, Scope of Work

Western Cultural Resource Management Proposal

Draft Report Review Comments

SCOPE OF WORK
ARCHEOLOGICAL EXCAVATIONS
IN LYMAN, STANLEY, AND HUGHES
COUNTIES, SOUTH DAKOTA

ARTICLE I. PURPOSE AND SCOPE

1. The purpose of this work is to meet the Omaha District's obligations to Federal preservation legislation and associated implementing regulations. The most pertinent for this investigation are: Public Law 74-292, Historic Sites Act of 1935, as amended by Public Law 94-458; Public Law 86-523, Reservoir Salvage Act of 1960 as amended by Public Law 93-291; Public Law 89-665, National Historic Preservation Act of 1966 as amended by Public Law 96-515; Public Law 91-190, National Environmental Policy Act of 1969 as amended by Public Law 94-52; Public Law 95-341, American Indian Religious Freedom Act; Executive Order 11593; implementing regulations 36 CFR Parts 60 and 61 Appendix A and 36 CFR Part 800. The cultural resources investigation shall be conducted in a professional manner. Cultural resources are defined as any site, building, district, structure, object, data, or material significant in history, architecture, archeology, or culture.

2. The work will consist of: (1) an exhaustive search of all background literature on the Lake Sharpe area and the sites identified for testing; (2) field work to recover information contained in the sites; (3) analysis of sufficient intensity to clearly establish the eligibility of each site to the National Register of Historic Places; (4) report preparation; (5) completion of National Register nomination forms; (6) a completed journal article; and (7) public education program.

3. There are eight (8) sites involved in the study. They are located on Lake Sharpe in Stanley, Lyman, and Hughes Counties, South Dakota. The following list summarizes some of the information available regarding these sites. The first seven are described in Toom and Picha 1984; 39HU83/231 is described in Falk ed. (1984) and Steinacher and Toom (1985).

Site	Description	Cultural Period	Approximate Area (ha)	Depth (cm)
39LM146	Earthlodge Village	Plains Village - Initial Middle Missouri?	3.75	40-100
39LM149	Rock forms	Historic Euro-/Native American	.01	Surface
	Mounds?	Plains Woodland	.01	Unknown
	Lithic Scatter	Unknown Prehistoric	1.50	Shallow?
39LM156	Dugout	Historic Euro-/Native American	.01	Shallow
	3 Buried Horizons	Unknown Prehistoric		

Site	Description	Cultural Period	Approximate Area (ha)	Depth (cm)
39LM166	Earthlodge Village	Plains Village - Extended Coalescent	16.0	Shallow?
	Depressions	Historic Euro/Native American	0.1	Shallow?
39ST120	Earthlodge Village	Plains Village	3.0	70-80
	Buried Horizon	Unknown Prehistoric	?	75
39ST121	Buried Horizon	Plains Village - Initial Coalescent?	?	90
	Buried Horizon	Unknown Prehistoric	?	140
39ST122	Earthlodge	Plains Village	1.50	100
39HU83/231	Artifact Scatter	Plains Village - Initial Coalescent	4.05	5-10
		Plains Woodland	?	?

a. Literature and Records Search. Information for the literature and records search shall be obtained from site forms, published and unpublished reports, theses, dissertations and manuscripts available for each site. Sources that must be checked are the South Dakota Archaeological Research Center, Ft. Meade; University of South Dakota, Vermillion; University of Nebraska, Lincoln; University of North Dakota, Grand Forks; U.S. Army Corps of Engineers, Omaha District; and the National Park Service, Midwest Archeological Center. Individuals known to have knowledge concerning the sites being evaluated should be consulted to obtain information which may not be available in the written sources.

The background research will be considered the starting point for all work. This research should establish a broad evaluating framework, based on a set of regional concerns and site specific topics. The "Management Plan for Archaeological Resources in South Dakota, Part I: Study Units" (Buechler, n.d.) should be used to develop regional or site specific research questions and goals achievable for this level of investigation. Additional areas for research can be found in Falk ed. (1984).

b. Field Investigation. This investigation shall be of sufficient detail and intensity to clearly establish the culture-historical framework, function, horizontal and vertical boundary, and integrity for each site. Test excavations will be done on all sites listed above. Excavation of the test units shall proceed according to accepted methodology for recovery of archeological data. The contractor will use the established datums. Permanent datums will be made if these cannot be located.

The field examination shall be conducted in close coordination with the Contract Administrator, South Dakota Field Archeologist, Lake Sharpe Project Manager, Technical Officer, and the Lower Brule and Crow Creek Indian Reservations. Field crews shall be subject to periodic onsite inspection by Corps representatives, without prior notice. The Contractor shall not enter upon private property without prior knowledge of the Lake Sharpe Project Manager. Arrangements for securing rights-of-entry upon privately-owned or leased lands are the responsibility of the Contractor. These arrangements shall be coordinated with the Lake Sharpe Project Manager. All vehicular traffic within the project area shall be restricted to existing roads, if at all possible.

The Contractor shall keep clear, legible, standard field records available and current for periodic review by the Technical Officer. These records shall include, but shall not necessarily be limited to: field notebooks, excavation forms, field maps, and photographs.

The Contractor shall pick up and retain those surface artifacts necessary to determine the cultural component(s), site function, subsistence and lithic technology. All cultural material recovered from subsurface testing will be retained. All artifacts retained shall be carefully recorded and stored during the field investigation.

At least one wall of each test unit displaying stratigraphic breaks and/or from which cultural materials have been retrieved shall be profiled. The elevation of stratigraphic breaks and cultural features shall be indicated on these profiles; all excavated fill shall be dry or wet screened by stratigraphic or arbitrary levels for recovery of artifacts, faunal and floral material.

If features are found, samples should be collected for flotation, pollen, and radiocarbon analysis. The size and selection of these samples shall be at the discretion of the Principal Investigator. However, the size of the samples shall remain constant so that comparisons can be made. Any cultural features excavated (e.g., postholes, hearths, burials) shall be recorded in terms of the test unit in which they were encountered, the stratigraphic or arbitrary level(s) in which they occur, and elevation. All features should be photographed and drawn. Few features should be completed excavated since the aim of the research is to test the subject sites. All material should be processed, cataloged, and curated in such a manner that they may be used if future mitigation is planned, or additional research is possible. All test units will be backfilled.

The District will provide the original site maps for use by the contractor. The maps will be revised as necessary to show the present size and topography of the site, the location of surface-collected artifacts and all excavation units including shovel tests.

The recommended number of excavation units and their depth for each site is provided below to assist potential contractors in developing research strategies, logistical needs and costs. These recommendations are based on

the information provided in Toom and Picha (1984) and Falk ed. (1984). Actual field situations may dictate a change. The testing program may be altered only after consultation with the Technical Officer managing this contract.

Site	1 X 1 m Excavation Units	Maximum Depth for Each Unit (cm)	C14 Samples	Comment
39LM146	8	120	2	
39LM149	4	100 and 50	1	Excavate 2 to 100 cm Excavate 2 to 50 cm
39LM156	3	110	3	One C14 sample from each horizon
39LM166	8	75	1	
39ST120	8	100	3	Two C14 samples from village One C14 sample from lower horizon
39ST121	2	160	2	One C14 sample from each horizon
39ST122	6	120	2	
39HU83/231	8	30	2	

c. Analysis. All material and information that is recovered will be processed and analyzed in such a manner that it provides answers to research topics in the proposal and is used to determine significance. Analysis of materials recovered from earlier research on the project area will be integrated with the present investigation. The proposal must detail the methods used for all analyses done for this contract.

Analysis of artifacts and data shall be conducted by or under the direct supervision of a qualified professional of the appropriate discipline (prehistoric archeologist for prehistoric artifacts and historic archeologist for historic artifacts). All diagnostic artifacts shall be documented with good quality black and white photographs which includes a size scale or technical scaled line drawings.

All artifacts shall be permanently stored at a repository located within the boundaries of South Dakota mutually agreed to by the contractor and the Government. The contractor is responsible for shipping all collected artifacts and records. If the artifacts are stored with the South Dakota Archaeological Research Center, the contractor must complete all work

involved with accessioning before the material is turned in. The archeological data and records must be made accessible to future researchers. All artifacts and data will be stored in containers clearly marked "Property of U.S. Army Corps of Engineers, Omaha District."

d. Investigation Report. The Contractor shall prepare a comprehensive investigation report which details the work done, the study rationale, the investigation results, recommendations for additional work, and management recommendations. The report shall include, but shall not be limited to, the following sections:

(1) Report Documentation Page, DD Form 1473. Complete all but sections 2 and 3. This form will be supplied by the Corps of Engineers.

(2) Title Page. This will contain the title, study type, location, project name and counties, report date, name of contractor, author/Principal Investigator, and Corps of Engineers contract number.

(3) Abstract. A brief synopsis of the work conducted, number and types of cultural resources identified and overall significance, and a summary of the management recommendations, which shall not exceed 150 words.

(4) Introduction. Identify the sponsor and contractor, the purpose for the investigation, discuss the type of investigation performed and location, indicate the disposition of the artifacts, and original records or other data. Discuss the report organization.

(5) Regional Location and Environment. A detailed description of the site locations including physical features and terrain, past and present vegetation and fauna, field conditions, past and present land uses, weather conditions during field work. The study area must be discussed within the larger framework of the physical region defined by the Big Bend Study Unit outlined in the "Management Plan for Archeological Resources in South Dakota, Part I: Study Units."

(6) Previous Work. An enumeration and description of all previous cultural resources investigations conducted at each site, names of principal investigators, dates of the studies, study results, and an overview of the general adequacy and deficiencies of the past work. This section can be combined with the Results section.

(7) Overview. Detail the relationship of the cultural history of each site investigated to the regional cultural history of the study area.

(8) Research Orientation. Develop and present theoretical and/or substantive goals and the methods to be used in achieving them. Address problems and testable hypotheses that are realistic for this level of study. Research orientation should initially address the Research Questions and Goals for the Big Bend Study Unit outlined in the "Management Plan for Archeological Resources in South Dakota, Part I: Study Units" and in Fal[illegible] ed. (1984).

(9) Methods. Present the procedures used to accomplish the research design. Discuss how the field work was organized, scheduled, and undertaken. Detail the laboratory procedures and the methods used to analyze artifacts and other data recovered from the field.

(10) Results. The information provided in this section shall include, but shall not be limited to: site name (if any), site number, site type (lithic scatter, farmstead, mound, etc.), component(s) or probable component(s), elevation, a verbal description of the topographic position of the site, site size (or presumed size, strata and depth), present vegetation, ground surface visibility at time of field investigation (in percent), condition (address the known past, present, or projected impacts); discussion of the artifact and other analyses; describe features and their distribution by component; display site and important feature maps, artifacts in drawings and photographs. The maps shall be clear and professional quality. The submission of sketch maps is not acceptable for use in the report. Present the results of the research conducted for this contract. The discussion should clearly explain the outcome of the procedures used to address research topics. Successes and failures should be discussed in the same detail.

(11) Recommendations. The results of the analyses will be used to determine the eligibility of the sites to meet the National Register criteria for evaluation in 36 CFR 60.4. Recommendations for nomination to the National Register will be presented accordingly. If site are being impacted, land management alternatives will be presented to stop, prevent, or reduce further impacts.

(12) References. Use the American Antiquity format for every publication, work, or interview cited in the report.

(13) Appendices. Completed forms used during the investigation, maps, photograph, and artifact cataloges.

(14) Completion of National Register nomination forms for those sites that appear to qualify for the National Register of Historic Places.

(e) Article. The contractor shall submit a suitable article for submission to Plains Anthropologist, American Antiquity, other professional or popular journal on the results of this investigation. This article shall include the following information: name of sponsor, contract number, and brief discussion of the importance of this contract for our District responsibilities. The draft of the article shall be submitted no later than 30 calendar days after the draft copy of the report is sent for review. The article may focus on any facet of the research. The purpose of the article is to ensure a wider dissemination of the information derived from the study. The contractor is encouraged to communicate with the local people, especially Native Americans, to inform them of the purpose of the investigation specifically and archeology in general.

(f) Public Education. The contractor shall prepare and submit either a slide program with script or an edited video program, not to exceed

20 minutes in presentation, describing in terms understandable to the general public, the methods, purpose and results of the investigation. An edited draft of the program shall be submitted no later than 30 days after the draft review comments to the report are returned to the contractor. The draft will not be returned for revision if it is acceptable to the Government.

ARTICLE II. CONTRACTOR, INSTITUTIONAL, OR CORPORATION QUALIFICATIONS

1. The minimum professional qualifications for the Principal Investigator, prehistoric and historical archeologists, and key consultants (e.g., architectural historian) are those given in 36 CFR Part 61, Appendix A - Professional Qualifications. Consultants and supervisory personnel not covered in this CFR who are hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence. The guidelines in paragraph (b) of this regulation will apply. Such qualifications are to be documented by means of vitae or resume' attachments submitted with the proposal or at a later time if the consultant has not been retained at the time of proposal.

2. Principal Investigator must periodically check on the progress of the work each week and be available to advise or instruct personnel should any problems develop. The Government may send a representative to inspect the various phases of the operations and review project records without prior notification. All aspects of the field examination shall be conducted by or under the direct supervision of a qualified archeologist.

3. Any change in personnel after the award of contract must be approved by the Contracting Officer. A person replacing a vacated position must have a comparable background and knowledge of the study area to maintain the same level of expertise and quality of performance. Failure to make an acceptable replacement could result in cancellation of the contract.

4. The Contractor must provide or demonstrate access to the following capabilities:

a. Adequate permanent field and laboratory equipment necessary to conduct operations defined in the scope of work. However, this qualification may be waived under circumstances of extreme need through negotiation.

b. Adequate laboratory and office space and facilities for proper treatment, analysis, and storage of specimens and records likely to be obtained from the project. This does not necessarily include such specialized facilities as pollen, geochemical, or radiological laboratories, but does include facilities sufficient to properly preserve or stabilize specimens for any subsequent specialized analysis.

3. Persons working under this contract are considered to be carrying out official agency duties under the Federal land manager's direction, associated with the management of archeological resources and therefore are exempt from obtaining an Antiquities Permit per Section 5(c) of 32 CFR Part 229 - Protection of Archaeological Resources Uniform Regulations. The District

shall ensure that Sections 5 and 8 are met through qualifications submitted in the proposal and contract documents respectively. Section 7 is applicable, Indian sites and Indian religious sites may be harmed under this contract. The District will notify the Indian tribes before the contract is awarded. The tribes which can be identified as having ties to these sites will be contacted.

ARTICLE III. REPORT SPECIFICATIONS

1. Ten (10) copies of the completed draft report shall be submitted to the Omaha District Office. The draft will be edited for major spelling and grammatical errors prior to submittal for review and comment or it will be returned for correction. The draft report will be submitted 331 calendar days after the contractor is notified to proceed. The Government shall have a maximum of 45 calendar days to review and comment. The contractor shall have 45 calendar days to include the review comments into the final report and submit the final original report with all negatives, photographs, maps, charts, tables, and standard drawings to the Government. The final edited text shall be prepared on 8-1/2- X 11-inch bond paper, single spaced, and be "camera ready." The Government will reproduce the final report for distribution to appropriate State and Federal agencies per ER 1105-2-50 and interested parties. The contractor will receive 25 copies for personal use.

2. Neither the contractor nor his representatives will release or publish any sketch, photograph, report, or other material of any nature obtained or prepared under this contract without specific written approval of the Contracting Officer's Representative.

ARTICLE IV. GENERAL SAFETY REQUIREMENTS

The Service Contract General Provisions Section 41, Service Contract Act of 1965, as amended, subparagraph (g) requires the contractor not to permit work under this contract in unsanitary or dangerous locations. Proper health and safety standards (29CFR1925) are to be followed for the duration of the contract. These standards are to be used in conjunction with the "U.S. Army Corps of Engineers Safety and Health Requirements Manual," (EM 385-1-1, April 1981). The contractor will use the above to control or report hazards and injuries associated with equipment usage, surveying, and excavation methodologies.

REFERENCES CITED

Buechler, Jeff
n.d. *Management Plan for Archaeological Resources in South Dakota, Part I: Study Units.* Dakota Research Services. Submitted to South Dakota Archaeological Research Center, Fort Meade. Contract No. 120401-405-004-(85)

Falk, Carl (editor)
1984 Archeological Investigations Within Federal Lands Located on the East Bank of the Lake Sharpe Project Area, South Dakota: 1978-1979 Final Report. Eight volumes. Division of Archeological Research, Department of Anthropology, University of Nebraska, Lincoln. Submitted to U.S. Army Corps of Engineers, Omaha District. Contract No. DACW45-78-C-1036.

Steinacher, Terry L. and Dennis L. Toom
1985 A proposed National Register of Historic Places, Multiple Resource Nomination for the Historic Resources of the Big Bend Area, South Dakota (Partial Inventory: Prehistoric and Historic Archeological Sites). Division of Archeological Research, Department of Anthropology, University of Nebraska, Lincoln. Submitted to U.S. Army Corps of Engineers, Omaha District. Contract No. DACW45-78-C-0131.

Toom, Dennis L. and Paul R. Picha
1984 An Archeological Survey of Selected Federal Lands on the West Bank of the Big Bend/Lake Sharpe Project Area, Lyman and Stanley Counties, South Dakota, 1983: Main Report, Supporting Documentation. Two volumes. Department of Anthropology and Archaeology, University of North Dakota, Grand Forks. Submitted to U.S. Army Corps of Engineers, Omaha District. Contract No. DACW45-83-C-0142.

TECHNICAL SUPPORT DATA RELEVANT TO A PROPOSED CONTRACT BETWEEN THE U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS (OMAHA DISTRICT) AND WESTERN CULTURAL RESOURCE MANAGEMENT (WCRM), INC. FOR THE ARCHEOLOGICAL TESTING OF EIGHT SITES ON LAKE SHARPE IN LYMAN, STANLEY, AND HUGHES COUNTIES, SOUTH DAKOTA.

PART I

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4. Description of Proposed Investigation

Introduction

This proposal has been prepared in response to the SCOPE-OF-WORK included as part of Solicitation number DACW45-87-R-0005 dated February 18, 1987. The basic objective of the investigation proposed herein is the subsurface testing of eight archeological sites located on Lake Sharpe in Stanley, Lyman, and Hughes counties, South Dakota. In addition, the Contractor will be responsible for 1) an intensive literature and records review on the Lake Sharpe area and the sites identified for testing; 2) the field work to recover the required information from the eight sites; 3) the analysis of these remains (including cultural, ecological, and geological) to clearly establish the eligibility of each site to the National Register of Historic Places; 4) the preparation of a technical report (including site forms, maps, photographs, and a description of all artifact categories recovered) for all eight sites; 5) the completion of National Register nomination forms; 6) the submission of an article to either Plains Anthropologist, North American Archaeologist, American Antiquity, or an equivalent journal; and 7) the development of a public education program.

The investigations conducted under the proposed contract agreement will be specifically oriented toward satisfaction of Corps of Engineer responsibilities detailed in accordance with existing cultural resource legislation, relevant sections of the Code of Federal Regulations, and

various Engineering Regulations detailed in the above cited SCOPE-OF-WORK.

In addition to meeting all necessary administrative and professional requirements of the above cited SCOPE-OF-WORK, the professional staff of Western Cultural Resource Management (WCRM), Inc. expects that the information resulting from this proposed investigation will represent a contribution to not only on-going research within the State of South Dakota, but to Plains archeology in general. In order to accomplish these objectives, WCRM has organized a team of professionals who have had extensive previous experience within the Plains region. The following proposal not only outlines the capabilities of these individuals, but also defines the general research problems of this project, presents the methodology and study approach to the literature review, field work, and laboratory analysis, and discusses the procedures for the curation of recovered materials. This proposal also will discuss the application of National Register Evaluation criteria to the sities proposed for study.

General Research Problems for the Lake Sharpe Locality

Introduction To achieve compatibility between this project's research design and the State of South Dakota's Resource Protection Planning Process (RP3), a draft copy of this plan, prepared by Jeff Buechler and dated November 10, 1984, has been reviewed. Specifically, the Lake Sharpe project lands fall within the Big Bend study unit of central South Dakota. The project area consists of the Missouri River Valley, much of which has been inundated, and the Missouri River breaks with small portions of the adjacent plains areas.

In general, research questions proposed in the RP3 report can be divided into two categories: 1) those dealing with culture history and 2) those concerned with reconstructing past lifeways. To the extent possible, the cultural historical questions will be addressed for the eight archeological sites of the Lake Sharpe area through the comparative analysis of artifactual and ecological material, and the integration of geoarcheological information (i.e. site size, location, distance to water. etc.).

The reconstructing of past lifestyles includes primarily economic questions such as the importance of hunting and collecting versus farming, cultural participation or interaction in trade networks, and resource utilization areas. These questions will be addressed by the comparison of tool types (i.e. projectile points, knives, scrapers, metates, bison scapula hoes, etc.) and the identification of non-local or exotic materials. The latter items will be analyzed within the context of regional and areal studies of exchange networks (e.g. Hayden 1982; Baugh 1982, 1984, 1987). Resource utilization areas will be examined by means of site distributions within the project area.

Previous Investigations The Lake Sharpe Project Area has had a long history of archeological research, focused primarily on Plains Village period earthlodge villages. The first systematic investigation conducted in the area was carried out by W. H. Over, director of the University of South Dakota Museum (Sigstad and Sigstad 1973). Over identified the locations of a number of sites and collected samples from some of these. Additional work

by Alfred W. Bowers (1948) of the Logan Museum, Beloit College, involved a reconnaissance resulting in the recording of many more site locations. Extensive excavations were first carried out by Elmer E. Meleen (1949) and Wesley R. Hurt (1951). Other excavations prior to World War II were conducted by Columbia University at the well known Arzberger site (Spaulding 1956).

The initiation of the Smithsonian Institution's River Basin Survey Program (SIRBS) following World War II rapidly accelerated archeological research in the area, stimulated by plans by the U.S. Army Corps of Engineers to construct a number of dams and reservoirs along the Missouri. A number of sites, primarily earthlodge villages and burial mounds, were located, tested, and/or excavated: e.g., 39BF2 (Deetz 1965; Irving n.d.); 39BF204 (Smith and Johnson 1968); 39BF215 (anonymous n.d.); 39BF223 (Neuman 1961a); 39BF224 (Neuman 1960a); 39BF220 (Neuman 1961b); 39HU7 (Johnston 1982); 39HU60 (Brown 1967); 39HU217 (Peterson n.d.); 39ST9/232 (Hoffman 1968); 39ST17 (Hoffman 1970); 39ST223/224 (Moerman and Jones n.d.); 39ST228 (Reed n.d.); 39LM1/227 (C. Smith 1975); 39LM4 (Caldwell et al. 1964); 39LM6 (Hillman n.d.); 39LM216 (Kuhn 1961); 39LM218 (Caldwell 1966); 39LM219 (Jones n.d.); 39LM208/209/232 (Caldwell and Jensen 1969); 39LM238 (Neuman 1964a); see also Huscher and McNutt 1958; Coogan and Irving 1959; Irving 1958, n.d.; Mattison 1962; G. Smith 1968; Neuman 1964b; C. Smith n.d.; Jensen n.d.; and especially Lehmer 1971).

Caldwell (1983) summarizes and evaluates SIRBS research in the Project Area. Briefly, SIRBS work focused on salvaging materials and information from a number of Plains Village period sites, especially the large and highly visible earthlodge villages. The primary goal of this program was the generation of data relevant to building a regional cultural chronology and taxonomy for this period prior to the destruction of many of these sites by dam and reservoir construction. Extensive excavations were conducted at many villages, focusing not only on those sites that were in danger of destruction, but also including several which represented the variability necessary for constructing comprehensive chronological and taxonomic schemes for the period. A number of Plains Woodland period burial mounds were also excavated.

The SIRBS research effort resulted in the production of many reports and manuscripts; the primary literature concerning the Lake Sharpe Project Area is listed above. Its culmination was seen in the publication of Lehmer's (1971) seminal work on Middle Missouri archeology. However, a review of Lehmer's synthesis finds it greatly lacking in detail in regard to pre-Plains Village chronology and taxonomy. This is not surprising since his research interests and those of his contemporaries revolved largely around the Plains Village tradition. Little data on pre-Village sites were generated by the SIRBS program because of this primary focus for the field investigations. Furthermore, because of the emphasis on earthlodge village sites, virtually nothing is known about other Plains Village site types (e.g., campsites and activity areas) and our picture of Plains Village settlement-subsistence patterns in the Middle Missouri is therefore incomplete.

Nevertheless, the SIRBS progam in the region, including that in the Lake Sharpe Project Area, was an archeological undertaking of monumental proportions that produced essential baseline information. Because of the

emphasis of the SIRBS program on village sites and the resulting limitations of the data base it generated, future research efforts should include comprehensive investigations of pre-Plains Village cultural manifestations in the region. However, it would be remiss not to continue to study the Plains Village tradition because it represents an extremely complex cultural phenomena that is imperfectly understood. Additional information is needed on overall Plains Village settlement-subsistence patterns. Also, some basic components of Lehmer's cultural-historical scheme have been called into question recently and even this presumably well known aspect of regional Plains Village culture needs to be reevaluated.

The pace of work in the area lessened considerably with the closing of SIRBS work in the late 1960s. Since that time, archeological research in the area has been sporadic yet continuing (e.g., Weakly 1971; Adamczyk 1975; C. Johnson 1977a, 1977b, 1980; A. Johnson 1977; Commonwealth Associates, Inc. 1978; Haberman 1979; Toom 1979; Richtsmeier 1980; Bleacher 1980; Nowak 1981; Brown and Brown 1983). Additionally, two analyses of SIRBS material from the project area are nearing completion under the U.S. National Park Service, Interagency Archeological Services backlog analysis program (Ahler et al. n.d.; Falk et al. n.d.).

Recently, an extensive resurvey and evaluation of the Lake Sharpe Project Area has been initiated by the Corps, with most work performed by the University of Nebraska-Lincoln (Steinacher and Toom 1979a, 1979b, 1980; Toom et al. 1979; Toom and Steinacher 1980; Steinacher 1981; Falk 1984) and the University of North Dakota, Grand Forks (Toom and Picha 1984). The University of North Dakota report culminates the Corps' resurvey effort, completing 100% coverage of all Federal lands administered by the Corps within the Lake Sharpe Project Area. A full inventory of archeological sites within the Project Area now exists, contained within three basic documents (Steinacher 1981; Falk 1984; Toom and Picha 1984).

Finally, a number of small-scale survey projects for various purposes, usually for clearing small-scale construction projects and water pump installations on the lake bank, have also been completed by and/or for the Corps and some State and local concerns (e.g., Nowak 1981).

In addition to focusing on cultural-historical and resource management issues, including investigations into pre-Plains Village sites, recent work in the Project Area has attempted to broaden our understanding of prehistoric settlement-subsistence patterns. However, much additional basic research and syntheses of existing data are needed before a more complete picture on the prehistory of the area will be forthcoming.

National Register Sites As of early 1984, only two properties in the Lake Sharpe Project Area were listed on the National Register. These are Langdeau (39LM209), an Initial Middle Missouri variant earthlodge village reported in Caldwell and Jensen (1969); and Lower Antelope Creek (39ST106), a multicomponent site consisting of a Post-Contact Coalescent variant component and a historic Euro-American component (Nowak 1981). A number of individual sites and four archeological districts have been proposed for nomination to the National Register as part of the proposed Big Bend Multiple Resource Area (Steinacher and Toom 1980). Toom and Picha (1984) list several additional sites and another district which they suggest should be included within the Big Bend Multiple Resource Nomination framework.

Culture History. Relatively few of the Big Bend sites have been radiocarbon dated. Most dating relies on comparative analysis with other surrounding complexes. The imprecise nature of this chronology has led to some conflicting statements regarding the temporal assignment and relationships of the Middle Missouri and Coalescent tradition sites. This problem will be approached through attempts to collect suitable charcoal samples for additional radiocarbon dating, further definition of stratigraphic position, and cross dating of intrusive artifacts such as occassional trade items will also be examined.

Cultural Interaction. During the Middle Woodland period, Hopewellian peoples formed extensive trade networks throughout much of North America. One of the more important of these for Plains peoples was the extraction of obsidian from the Yellowstone quarries in Wyoming and Knife River flint from North Dakota. Moving through the Plains, this exchange system appears to have played only a minor role in terms of interaction with Plains societies (Anderson et al. 1986). The studies of Baugh and Nelson (1987, 1988) are beginning to indicate that such patterns of exchange had a much deeper impact on Plains societies which lasted well into the Plains Village period (see also Wood 1972). This aspect of our study will be achieved by careful examination of published artifact descriptions and patterns looking for items related to patterns of interchange. Studies of locally available lithic materials in the project area have been accomplished by Ahler (1980) and Toom (1983). A regional study of lithic raw material utilization has also been made by Ahler (1977). Information in these studies will be incorporated into the proposed research.

Cultural Ecology. This phase of our research will focus on the definition of changing Plains procurement systems. During the course of our field work any features (i.e. storage pits, roasting pits, and/or basins) which are encountered will be sampled for floral and faunal remains. This approach will initiate micro-recovery techniques to maximize our knowledge about this cultural adaptation. On the basis of this work, our expectation is that a better explanation of Plains adaptations can be made for both the Woodland and Plains Village periods in the Lake Sharpe Project Area.

The detailed development of this research topic can be successfully accomplished within the scope of this project. The problem orientation stresses the integration of various sets of archeological data relating to culture history, cultural interaction, and cultural ecology. The identification of specific cultural horizons and their association in terms of stratigraphic position may provide a basis for cross dating these assemblages with other known cultural manifestations. At the same time, these data can be correlated with ecological information for the inference of the defined cultural units' environomental settings. Detailed quantitative analysis of systematic samples collected across cultural units will provide measures of relative change. Limited testing and definition of site sizes using horizontal techniques (i.e. systematic surface collection) and vertical techniques (through coring and test pits) should provide a sufficient level of information to address the proposed research questions.

Research Problems: The choice of a research topic is dependent upon two factors: 1) the adequacy of the expected data base; and 2) the methodological structure devised to operationalize that information. The

level of data collection provided by the above cited SCOPE-OF-WORK is restricted to testing. Further restrictions include limiting artifact surface collecting to diagnostics (i.e. items with culture-historical significance). Therefore, research within the project lands must be conducive to these limitations while providing useful information to both the cultural resource managers of the Corps of Engineers and the academic community.

The developed research topics will be aimed specifically at three dimensions of inquiry, including cultural chronology, function, and area utilization. All of these are interrelated and involve collection of information fully compatable with the structure of this study's data limitations. Furthermore, these topics represent significant research problems; the investigation of which will provide valuable information for the understanding of man-land relationships in this area.

The temporal and contextual framework of these eight sites will be established by the careful recording of geological and archaeological stratigraphy, the collection of appropriate samples for dating purposes (i.e. wood charcoal and other remains), and the comparison of artifact inventories. Although all eight sites recommended for testing will benefit from this perspective, the four unknown components can be identified by this means. This approach will allow for the placement of these sites within a contextual framework that will permit the development of more processually oriented questions.

In this instance, these questions are tied directly to site function and area utilization. The mixed economy of Plains Village peoples requires logistical organization for the procurement of plant (both wild and domestic) and animal resources. From a settlement pattern perspective such a strategy requires the utilization of a number of site types. A poorly documented and studied site type which potentially relates to this mixed economic pattern is the "field camp" (Binford 1980:10-12). These sites are temporary camps which are used for resource extraction purposes including hunting and/or fishing. Binford (1980:10-12) notes that such site types represent seasonally occupied or temporary habitation sites. Such camps are occupied on a more short term basis than residential sites (from which the task group originates), because they are localities where a specific procurement task group (i.e. hunting or fishing party) maintains itself while away from their residential base.

In the case of Lake Sharpe, such sites might be represented by Ghost Lodge (39ST120) and Sitting Buzzard (39ST122). Because these sites are located in the rugged Breaks terrain of the Missouri they represent a poorly known and important cultural resource that could provide valuable understanding of Plains Village adaptations within the Lake Sharpe Project Area. Both 39ST120 and 39ST122 are located near the Bloody Hand site (39ST230) (Toom and Picha 1984:127-131), an earthlodge village which may represent their primary residential base. Bloody Hand consists of 28 circular to oval house depressions, which are placed in what appears to be a defensive position. On the basis of simple stamped pottery, Bloody Hand appears to represent either an Extended or Post-Contact Coalscent site (Steinacher 1981).

On the other hand, the Antelope Dreamer site, 39LM146, is more complex.

It contains at least 12 rather indistinct house depressions which tend to be square to rectangular in outline (Toom and Picha 1984:96-103). In addition to these, a single round depression was found in the southeast portion of the site. Among the various artifacts recovered from 39LM146 are cord impressed and smoothed surface sherds with crushed granite temper. This material indicates an Initial Middle Missouri variant site, but the single round structure may indicate a multicomponent occupation with the latter representing a later Coalescent tradition. Such a site represents the opportunity to study changing procurement systems not only temporally but culturally as well.

The development of a detailed settlement pattern model for the project area is not currently feasible because of the limitations of the present data base. Systematic surveys do not exist for those areas now inundated by Lake sharpe, nor do systematic surveys exist for bordering areas of upland and minor tributaries leading into the Missouri River Valley. This proposed project will not provide statistically significant samples to fill these serious gaps in our current knowledge. However, since the project area represents an important segment of the Missouri trench an initial cultural profile can be expected to be generated with this work. Consequently, the structure of the inquiry can be oriented to area utilization modeling.

Area utilization modeling need not focus on any one specific cultural period or taxonomic unit, but rather examines the area for general patterns of utilization. This in turn reflects causitive underlying factors of ecology and social interaction. Data derived from eclectically selected areas are amenable to utilization studies. Relative comparisons of density measures provide but one example of how this data can be treated.

Methodology and Study Approach to Literature Review, Field Work, and Laboratory Analysis

In order to fulfill the requirements of Part 1-Section C (SCOPE-OF-WORK) and Part 4-Section M (Evaluation and Award) under which this proposal was prepared the following procedures will be adhered to:

Literature and Records Search: An intensive review of all pertinent literature and records will be undertaken. This review will encompass literature sources for the archeological sites in the proposed SCOPE-OF-WORK. The State Historic Preservation Officer (SHPO), State Archeologist for South Dakota, their staffs and files will be consulted for information on the sites. A continuing liaison will be maintained with those offices during the course of the project. The literature and records review will also make use of the archival resources of the Midwest Archeological Center (U.S. National Park Service), South Dakota Archaeological Research Center, University of Nebraska at Lincoln, University of North Dakota in Grand Forks, and other, appropriate local, State, and Federal sources. These sources are deemed of importance because of the different types of records they hold for the Lake Sharpe Project Area.

This aspect of the research will be initiated during a pre-field phase of the project and will be continued during the remaining field, laboratory, and analysis phases. The literature review, site survey form, data review

and acquisition will be undertaken by the Principal Investigators and the project records research curator through an initial coordinating trip to the project area and appropriate offices in South Dakota and surrounding states.

Field Examinations

Site Testing. Fulfillment of the SCOPE-OF-WORK requirements to provide evaluation and justification of the sites in terms of potential eligibility for the National Register of Historic Places and outlined research questions will be pursued through a systematic field investigation process. This will proceed in a series of defined steps:

1. Initial Site Delineation. A preliminary evaluation of the site's size will be made through a careful surface inspection. This will concentrate on locating the horizontal extent of visible artifacts and features. The intial size estimation will be marked in the field through appropriate flagging and will also be entered on 7.5" U.S.G.S. Quad sheets. Initial surface reconnaissance may involve limited shovel testing and/or other methods to remove obscuring ground cover conditions such as heavy grass and accumulated mulch. Work areas currently under cultivation will be negotiated with the leasee farmer. Any extensive clearance of ground cover will be coordinated with proper officials and leasee farmers.

2. Datum and Grid. The initial site delineation will guide the testing crew to the location of the permanent site datum established during previous investigations. This datum consists of a length of reinforcement rod set in the ground. Attached to this rod is a magnetic survey marker for easy location and reference. A grid will be placed on the site not to exceed 20 meters in interval and will be used for control purposes in the placement of test squares.

3. Surface Collection. A systematic surface collection of all diagnostic artifacts will be made. This collection will be controlled through either a point plot method for small sites or a grid unit provenience for large sites.

4. Surface Data Evaluation. Information derived from the initial site delineation and surface artifact collection steps will be evaluated prior to initiation of subsurface investigations. Diagnostic artifacts and artifact densities will be examined and the results of this analysis will guide the placement of subsurface units.

5. Test Pits. Horizontal control will be established over each site with the placement of a grid unit. All test pits will be one meter by one meter in size and excavated in defined arbitrary units or with reference to natural stratigraphy when possible. Excavation tools will be limited to hand held implements such as shovels, trowels, dental picks, etc. Test pits will be carried to depths where reasonable expectation of encountering sterile deposits has been achieved, as determined by the geoarcheologist. At least one deep core will be made in the bottom of the deepest test pit to check for the presence of unsuspected buried deposits. All removed soil will be screened using one-quarter inch, or less, hardware mesh. Appropriate samples will be taken when subsurface features are defined. This will include (but may not be limited to) pollen, macro-botanical remains, micro-

and macro-faunal materials, flotation, and wood charcoal. During all phases of this work, field notebooks, level forms, square reports, feature forms, and profiles will be maintained.

6. Contour Mapping. Because a contour map has already been made by previous archeological teams, we will place the location of our test squares on these existing maps. The accuracy of these maps will be checked for each site by re-examining relevant terrain and cultural features.

7. All core probes, test pits, and other project generated soil disturbances will be filled and returned to as close to previous conditions as possible. This will include back filling and the provision of additional fill to make up for removed portions. Erosion faces will be stablized in areas where tests were conducted to inhibit further erosion damage. ?

8. Agency Coordination. During all phases of the field work, close coordination with the Contract Adminstrator, South Dakota Field Archeologist, Lake Sharpe Project Manager, Technical Officer, and the tribal governments of the Lower Brule and Crow Creek Indian Reservations will be maintained. Before private, leased, or non-project lands are entered permission from the landowners will be acquired and the Lake Sharpe Project Manager notified. All vehicular traffic within the project area will be restricted to existing roads.

Laboratory Analysis. All cultural material recovered during the course of the field investigations will be cleaned, restored if necessary and possible, and catalogued. Artifacts will be individually marked with site number (assigned Smithsonian trinomial numbering system) and a provenience code. Items too small and or fragile to be individually marked will be placed in appropriate containers and marked with an indelible marking ink. Metal, leather, cloth, and other perishable artifacts recovered from historic sites will be stabilized prior to final curatorial disposition. All material will be packaged in appropriate containers as designated by the receiving repository.

Classes of artifacts which will receive detailed analytical treatment include lithics, ceramics, bone, shell, floral remains, and historic materials. While not inclusive, this list represents the expected primary artifactual (and ecofactual) content of the sites to be investigated. Analysis of other, secondary classes of artifacts will be developed as the need to do so becomes apparent. The analytical systems used will be compatible with other recent studies in the Middle Missouri subarea, where possible (e.g., Ahler 1977; Falk 1984). In particular, the analytical techniques and reporting standards set by Ahler (1977) and others (Falk 1977a; Nickel 1977) for the test excavations at Jake White Bull site will be approximated as closely as is practical within the context of the proposed investigations. All analyses will be directed at determinations of site and component chronology, cultural affiliation, function, and position within appropriate settlement-subsistence patterns.

All lithic artifacts, both tools and flaking debris, will be analyzed according to techniques developed by Ahler (1975a, 1975b, 1977a; as modified per Ahler and Swenson 1985). The lithic analysis will be primarily concerned with the characterization of technology, form, function, and raw material utilization for recovered materials. Native ceramics will receive

a similar level of analytical treatment. Rims sherds will be classified according to recognized types described in Johnson (1980). The generation of data on body sherds will include quantification of surface treatment (manufacture) attributes and mean thicknesses. An assessment of the technology and function of all recovered bone tools will also be made (cf. Ahler 1977b). All identifiable bone elements, including both tools and unmodified specimens, will be minimally identified according to their anatomical position at the family level; more precise species identifications will be made wherever possible. Unmodified bone, including identifiable and unidentifiable specimens, will be quantified by weight according to size grades, and separated into burned and unburned bone groups (cf. Falk 1977a, 1977b). Shell artifacts, both modified and unmodified, will receive a level of analysis comparable to that of the bone artifacts (cf. Ahler 1977b).

Carbonized plant remains will be given treatment similar to that by Nickel (1977), with most taxonomic identifications limited to the family (generic) level, although species identifications will be made where possible. Pollen sample analysis will provide the same level of identification as that proposed for macro-plant remains. While not anticipated to represent a major class of material, historic artifacts (Euroamerican or Euroamercian derived) will receive analytical treatment adequate to permit assessments of chronology, affiliation, technology, and function. Analytical techniques and standards established by Steinacher (1983) for historic artifacts at the Mondrian Tree site will be followed.

Curation of Materials

In accordance with the provisions of the proposed contract agreement all cultural material obtained as a result of these archeological investigations will be properly curated and submitted to an officially recognized depository. Preliminary discussions have been opened with the South Dakota Archaeological Research Center, Fort Meade. The final decision for the disposition of these remains will be made in consultation with the Contracting Officer.

Application of National Register Evaluation Criteria

Guidelines published by the National Register Division, Office of Archeology and Historic Preservation, U.S. National Park Service (1977) recommend reference to state, regional, or local research designs for assessing the significance of archeological properties under consideration for nomination to the National Register of Historic Places. The state research design for South Dakota is currently under development and review. Thus project personnel intend to work closely with the South Dakota Historic Preservation Office archeologist, and Dr. Robert Alex, South Dakota State Archaeologist, to keep abreast of current developments concerning this plan and to develop a sensitivity to their concerns. Concurrently, two informative and thoughtful discussions on archeological site significance (Dunnell and Dancey 1978; Fort Burgwin Conference 1978) can be consulted for general guidance in determining the value of the cultural resources within the Lake Sharpe Project Area.

In assessing the significance of archeological properties, two perspectives must be considered. On the one hand is the scientific perspective which is concerned with the future research potential of an archeological site and on the other, the humanistic perspective which is concerned with not only the intrinsic value of a site, but its ability to reflect an understanding of past human behavior. Those archeological resources deemed to have scientific value, and therefore significance, are those locales with the potential of providing data concerning social and cultural change. Those archeological resources judged to have humanistic value or significance are those which represent particular events, periods, or classes or remains important to one or more groups of contemporary people.

The evaluation of these resources, however, must be made on a regional and comparative basis (i.e. within the framework of a state plan). The resources of the Lake Sharpe Project Area exist within that culture subarea defined as the Northern Plains, a division of the Plains culture area (Wedel 1961). As such the cultural resources of the project area must be evaluated from the perspective of this s area. Following from this, the criteria used in assigning scientific value to archeological resources must focus on the need to establish, preserve, and maintain a statistically relevant and adequate sample of the variability in the archeological record of the region, as defined from several levels (from the region, to the subarea, to the site, and to the artifact) (Dunnell and Dancey 1978). Such a sample of archeological variability must be at a level of providing at least a minimum of scientific research needs.

The criteria employed for assigning humanistic value to archeological resources may center on the degree of cultural and political continuity between contemporary inhabitants of the region or the ability of a site to provide a better understanding of the lifeways of previous inhabitants who no longer occupy an area. In either case, the specific criteria established at the Federal level must also be used in determining site significance. For example, the age, cultural affiliation, content, and boundaries of an archeological site must be at least generally known before they are considered eligible. Thus, each and every site must be carefully considered and evaluated as to its potential before it is nominated to the National Register. With all of these considerations in mind the archeological resources of Lake Sharpe will be examined and appraised as to their potential for scientific and humanistic research and value.

The specific values to be used in recommending sites as eligible or ineligible for the National Register of Historic Places includes:

1. Will the site provide cultural historical information on the basis of artifactual and non-artifactual materials?

2. Will the site contribute functional information concerning adaptational lifestyles?

3. Does the site contain significant amounts of primary context deposits (i.e. has erosion or other post-depositional effects seriously disturbed the integrity of the site)?

These three primary values evaluated in terms of the scientific and humanistic criteria will determine recommendation of eligibility.

Study Design

In order to fulfull work requirements in the SCOPE-OF-WORK and insure project completion the following study procedures and schedule have been developed. The proposed investigation will be carried out within a 13 month period beginning on or about 15 May 1987 and ending 31 May 1988. This schedule assumes a contract award date on or about 1 May 1987. Approximately 400 days will be required to complete the proposed investigations

The project will be conducted in a series of phases designed to ensure continuity and smooth work flow. These phases are outlined below, in Table 1 and Figure 1 (flow chart).

Phase 1: Project Organization, Preliminary Records Search, and Project Area Inspection (2 weeks).

Beginning on or about 15 May 1987 project organization will commence. Personnel, materials, and facilities will be hired and/or obtained. Coordination meetings with the Contracting Officer's designated representatives will be affected. A records search and literature review will be initiated. The project area will be visited, and coordination with local Corps and tribal officials will be made. In addition, organization of local logistics will be undertaken.

Phase 2: Field Investigations (5 weeks).

The actual field investigations will commence around 1 June 1987 and continue until about the end of the first week in July. A crew of six individuals will be employed. This will allow for two teams to be formed for the examination of the smaller sites, and one team for the larger sites. Each crew will be directed by the Prinicpal Investigators. In addition, local records will be researched as needed in accordance specific site identifications.

Phase 3: Data Analysis and Preparation of the Final Draft Report (6 months).

Upon completion of Phase 2 all recovered materials and records will be returned to the laboratory for processing and analysis. All forms to be submitted will be finalized. Maps, charts, and profiles will be be drafted. Photographs and other illustrations will be printed and prepared for submission with the report. Cultural resource management and research questions in the proposal will be addressed and analyzed. This phase will be the joint responsibility of the Principal and Co-Prinicipal Investigators.

Phase 4: Review and Preparation of the Final Report (3 months).

Upon on completion of the final draft report, the Corps of Engineers will have approximately 45 days to review and comment on the report. An

additional 45 days is provided for final revisions as needed by the review.

During any phase of the project, all field records and recovered materials will be available for immediate inspection by the Contracting Officer or his representative. Should significant cultural resources be observed to be under imminent threat of destruction, they will be reported immediately to the Contracting Officer.

All data dissemination restrictions and safety requirements outlined in the SCOPE-OF-WORK will be observed.

Personnel
(See Appendix B for full professional vitae)

Thomas J. Lennon has a Ph.D. from the University of Colorado and has been involved in cultural resource management studies in the western United States since 1975. As President of Western Cultural Resource Management, Inc. (WCRM), a Boulder based corporation, much of his experience has come as an archaeological consultant to federal, state and industrial clients. Founded in 1978, WCRM has grown to become a highly regarded cultural resource consulting firm. Studies have been conducted in Colorado, Idaho, Montana, Nevada, Oregon, South Dakota, Utah, and Wyoming. He has managed numerous kinds of cultural resource projects including Environmental Assessments, Environmental Impact Statements, background and literature reviews, technical analyses of mine plans, sample surveys, intensive inventories, test excavations, mitigation data recovery plan development and mitigation projects. WCRM's professional staff size has ranged up to 75 people, depending on the size and number of projects. In the past eight years he has successfully managed annual budgets ranging from $100,000 to over $1 million dollars.

The proposed project will be under the immediate supervision of Mr. Dennis L. Toom, Project Director and Principal Investigator. Toom is presently a Ph.D. student in the Department of Anthropology, University of Colorado, Boulder (CU). Toom has some 12 years of professional experience as an archeologist, including both prehistoric and historic research endeavors. His primary emphasis for the past 10 years has been in the Middle Missouri subarea of the northern Plains, specializing in Plains Village tradition archeology. Toom has had direct experience in cultural resources survey, testing, excavation, and reporting work in the Lake Sharpe Project Area with both the University of Nebraska-Lincoln (1978-1980) and the University of North Dakota (1983-1984). Major research efforts have centered on the investigation of late prehistoric and protohistoric Plains Village tradition components within the Missouri River trench in North and South Dakota, in addition to extensive experience with Plains Woodland and Plains Archaic tradition components. Recently, as a Ph.D. student at CU, he has developed additional skills in the area geoarcheology. Course work in the Department of Geological Sciences at CU, including geomorphology and soils (pedology), as well as course work in environmental archeology in the Department of Anthropology at CU, has prepared him to make detailed stratigraphic and environmental studies of relevance to archeological contexts. In addition to his research experience, Toom has considerable background in project management and contract administration, including

several previous positions as project director and principal investigator.

Timothy G. Baugh received his Ph.D. in 1978 from the University of Oklahoma. He will serve as the Co-Principal Investigator for the project. From 1985 through 1987, he has taught at the University of Colorado, Boulder. In the summer of 1986, he directed the University of Colorado's Archaeological Fieldschool which worked at the Triple J site in southeast Colorado, and in the summer of 1984, Baugh directed the University of Oklahoma's Archaeological Field School in western Oklahoma. Between 1978 and 1985, he served as Ethnohistorian/Research Archeologist with the Oklahoma Archeologial Survey, University of Oklahoma. He has directed both survey and testing programs in the states of Oklahoma, Colorado, and New Mexico. In addition, he has worked in North Dakota. He has worked on a variety of sites including Archaic, Plains Village, and Historic Euroamerican. In addition to this archeological experience, Baugh has worked with various Native American groups within the states of Oklahoma and Colorado. He has been especially interested in working with these people in terms of assisting in the development of their own cultural centers and archives. This work has culminated in the presentation of three major traveling museum exhibits on the Kiowa Apache and Wichita. These exhibits have been viewed in Oklahoma, Kansas, Texas, Louisiana, and Tennessee. At the end of these tours, each exhibit was returned to the appropriate tribal cultural center where it served as a developmental core for each tribe's cultural resources. Throughout the course of these projects, Baugh, who served as project director, was responsible for the coordination of activities with the Wichita and Apache tribal governments. During the course of the Lake Sharpe project, Baugh will be generally responsible for the initial contact and continuing coordination with the tribal governments of the Lower Brule and Crow Creek reservations, as well as all phases of the proposed research. He will be present for the entire course of the field investigations.

Mr. Terry L. Steinacher will serve as a consulting historical archeologist. Steinacher has had over 17 years of experience as a professional, primarily in the Central and Northern Plains. From 1973 to 1978, he served as the Highway Salvage Archeologist for the State of Nebraska. From 1978 to 1980, he directed survey and testing investigations for the Division of Archeological Research, University of Nebraska Big Bend Reservoir/Lake Sharp South Dakota Project. In 1983, he served as a supervisory archaeologist for the University of North Dakota during the survey of selected areas of the west bank of the Big Bend Reservoir/Lake Sharp, South Dakota. Mr. Steinacher has been the instructor for two archeological field schools for the Department of Anthropology, University of Nebraska at Lincoln which was held in the Big Bend area of South Dakota. Furthermore, he has been the assistant instructor for the Department of Anthropology, University of North Dakota during excavations at East Rainy Butte in southwest North Dakota. He directed the 1982 archeological reconnaissance of the Knife River Flint Quarries in Dunn County, North Dakota. Additionally, Steinacher has had extensive training and experience in both prehistoric and historic archeology. Steinacher is a Ph.D. candidate, Department of Anthropology, University of Oklahoma.

Mr. Charles W. Wheeler will serve as the consulting faunal analyst. Mr. Wheeler is a graduate student at the University of Colorado, Boulder. He has over 10 years of experience as a professional archeologist as the author and direct supervisor on numerous archaeological projects including survey, monitoring, testing and excavation in Colorado, Montana, South Dakota and Wyoming. Projects Chuck has managed range from the survey of small well pads and rights-of-way to large-scale multi-site mitigation projects. Chuck has worked primarily in plains and montane environments. For two years Chuck was Project Manager of the Windy Gap Archaeological Project and was responsible for supervising all field operations, including survey, monitoring, testing, excavating, analysis and report preparation. This project identified the oldest wattle and daub structural remains in North America. On this project, Mr. Wheeler performed the analysis of faunal remains which is his primary responsibility for the Lake Sharpe Project.

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

MAR 05 Rec'd

REPLY TO
ATTENTION OF

February 27, 1990

Planning Division

Mr. Dennis L. Toom
University of North Dakota
Dept. of Anthropology & Archeology
P.O. Box 8242
Grand Forks, North Dakota 58202

Dear Mr. Toom:

We have completed our review of your draft report of the "Archeological Test Excavations at Eight Sites in the Lake Sharpe Project Area, Hughes, Lyman, and Stanley Counties, North Dakota, 1987." Our comments are divided into general and specific categories. As usual, your report is very thorough. Please contact us if you have any questions about our comments.

Sincerely,

Richard P. Miner
Authorized Representative
of the Contracting Officer

Enclosure

Archeological Test Excavations at Eight Sites in the Lake Sharpe Project Area, Hughes, Lyman, and Stanley Counties, South Dakota, 1987

GENERAL COMMENTS

II. Introduction

The development of management recommendations is more a part of the compliance process than it is part of the National Register process.

VIII. Betty Bite Off Site (39LM156)

Page 109, para 1. We do not know what the potential significance of the historic components at this site or others actually is, since we did not investigate them.

IX. Buzzing Yucca Site (39LM166)

Page 260.ff. The hypotheses about the firing of pottery are interesting. Trying to replicate the pottery found with the fuels mentioned would make a worthwhile research project. While broken pots may result from firing, these may not be highly fragmented. Could it be possible that trash was swept into the hearth and perishable items burned prior to leaving a lodge for a period of time? Or may the pot sherds have been collected to be ground for temper? Firing pottery inside a lodge would generate a large amount of heat and possibly smoke. Since the ash extended above the floor, it seems likely that the lodge was not occupied for any period of time after the ash-producing fire.

XV. National Register Evaluations and Management Recommendations

Page 421. South Dakota would like you to refer to the state plan (Buechler 1984) for research topics also.

Appendix B

Page 510. Some of the information starting on this page should be in the main report, especially the last paragraph. There are no references cited in this appendix. You should say something about the lack of references if this is not first-hand knowledge.

Page 527. Is the sample of small mammal bones biased by where water screening was done and where flotation samples were taken? Wouldn't this make an association of small bones with earthlodges seem more real than it really was? See the second paragraph on this page for a discussion of this association.

SPECIFIC COMMENTS

Title

Insert "of" after "Area". change the "Submitted to" title to "Department of the Army, U.S. Army Corps of Engineers, Omaha District, Omaha, Nebraska."

Abstract

Page viii - limit Abstract to 150 words per Scope of Work.
" , para 2, line 2 - what is "cal."? Also see page 2, para 3, line 3 and elsewhere.

I. Management Summary

Page 1, para 1, line 4 - add "Inc." after "Management".
" " last line and elsewhere - "National Register of Historic Places does not need to be underlined.
Page 5, last para, line 8 - insert "the" after "along".
Page 6, Heading - add the site number for the Ghost Lodge site.
" para 1, line 8 - "present" should be "presence".
Page 7, para 2, last line - insert "this" after "at".

II. Introduction

Page 9, para 1, line 6 - replace first comma with "in Hughes,".

III. Research Design

Page 20, last para - pollen may also be used to determine climatic conditions.
Page 23, para 3, lines 2 and 3 - do you want to change the two "a"s with "the" for "the primary" and "the determining"?
Page 25, para 1 - reverse "Omaha District, Corps of Engineers" to "Corps of Engineers, Omaha District". Also see same page, last para, lines 6 and 7; page 63, para 1, line 4; page 101, para 2; page 186, para 1, line 5; page 207, para 2, line 4; page 237, para 4, lines 4 and 5; page 289, para 2, lines 4 and 5; page 341, para 1, line 4.
Page 25, para 2, line 14 - "O e" should be "Over".
Page 28. Since the last sentence of the 1st paragraph on page 28 mentions exceptions, it would be useful to provide an example. The 2nd paragraph on this page is confusing. Are the exceptions mentioned in the 1st paragraph the situations described in the 2nd paragraph? If so, a new sentence tying the two together would be useful.
Page 37, para 3, lines 11 and 12 - letters are missing.

IV. Background Information

Page 49, last para, lines 1 and 9 - use one form of spelling for Euroamerican/ Euro-American. Also see page 50, para 1, line 2.
Page 57, para 2, line 13 - "basis" should be plural.

V. West Bend Side (39HU83/231)

Page 67, para 2, line 5 - there are two incomplete sentences.
Page 69, last para - delete second to last sentence. "Much the same ...." This is irrelevant to the discussion.
Page 71, Figure 11 and elsewhere. The profiles would be more informative if the Munsell colors were added. This is not required by the Scope of Work but these data were collected.

Page 80, para 5, line 4 - delete "the" after "primary".
Page 87, last para, line 9 - "tools" should be singular
Page 90, para 3, line 5 - insert "of" after "numbers".

VI. Antelope Dreamer Site (39LM146)

Page 101, para 2, lines 6 and 7 - change format in parenthesis to "Dennis L. Toom and Stanley A. Ahler, principal investigators". Also see page 186, para 1, lines 5 and 6; page 207, para 2, lines 6 and 7; page 237, para 4, lines 6 and 7; page 289, para 2, lines 6 and 7; page 341, para 1, lines 6 and 7.
Page 107, para 2, line 1 - change "are" to "were".
" " line 3 - "include" should be past tense.
Page 109, para 1, last line - "nine-ninths" should be "eight-ninths".
Page 122, para 3, line 3. Since the case has been made that the lamppost is a telephone pole, should not the terminology be changed.
Page 125, para 3, line 4 - "architecture" should be "architectural".
" para 4, last line - the first "or" should be "of".
Page 127, Figure 33. A key is needed to indicate the burned beam fragments.
Page 138, para 2. How does the maximum thickness on the sherds mentioned in this paragraph compare to the average thickness of Initial Middle Missouri pottery?
Page 138, para 3, line 16 - "elements" should be singular.
Page 148, last para, line 4 - insert "the" after "apparent in".
Page 160, para 2, line 3 - "tools" should be singular.
Page 165, para 2 - describe or place the unknowns in a table.
Page 179, Table 34 and elsewhere. Artifact densities are given in number or weight per meter squared. Since the excavation units were not all dug to the same depth, a true comparison can only be obtained by using cubic meters.

VII. Windy Mounds Site (39LM149)

No specific comments.

VIII. Betty Bite Off Site (39LM156)

Page 207, para 2, line 5 - "Federal". Also see page 237, para 4, line 6; page 289, para 2, line 5; page 341, para 1, line 5.
Page 209, para 2, line 3 - change the second "as" to "of".
Page 210, para 1, line 1 - change "in" to "on".
Page 227, para 2 - the lack of G1 flakes, etc. could also be the result of the limited sample of material recovered from this site.
Page 230, para 2, line 8 - "containers" is misspelled.

IX. Buzzing Yucca Site (39LM166)

Page 237, para 4, line 5 - change "conduction" to "conduct".
Page 243, para 3, line 1 - insert "is" after "that".
Page 255, para 2, line 16 - insert "of" after "reflection".
" para 3, line 11 - "presented" should be "presently".
Page 262, para 4, last line - insert "are" after "sherds".

" last para, line 1 - delete one "sherd".
Page 265, para 2. The paragraph seems to contain a contradiction. Comparisons of body thickness are discussed and the House 5 sherds are said to be thinner than other Extended Coalescent sherds. The last sentence in the same paragraph states that the thickness data supports an Extended Coalescent interpretation. Additional support for that conclusion is necessary.
Page 265, para 3. The first two sentences in the paragraph contain different numbers for the number of rim sherds found at Buzzing Yucca. This needs to be explained.
Page 267, Figure 78. What units is the state divided into? Also see other artifact photographs.
Page 270, para 4, line 1 - change "was" to "were".

X. Ghost Lodge Site (39ST120)

Page 292, Figure 63.B. The house floor mentioned in the caption is not easy to see. It may be necessary to use a marker to indicate its location in the final report.
Page 295, para 3, line 7 - change "was" to "as".
Pages 312-313, Figures 94.A and B, and 95.A. Rotate figures 180 degrees.
Page 323, para 3, line 12 - "represent" is past tense.
Page 329, para 1, line 1 - insert "by" after "debris".
Page 336, last para, line 8 - delete first "to".
Page 337, para 2, line 13 - insert "the" after "on".

XI. Cache Site (39ST121)

Page 345, para 2, line 9 - "proceeding" should be "proceeded".
" para 3, line 13 - "locating" should be "located".
Page 346, para 1 - are the test unit number reversed?

XII. Sitting Buzzard Site (39ST122)

Page 358, para 3, line 3 - insert "the" after "to".
Page 373, para 3, line 9 - delete "near" or "with"?
" para 4, line 5 - delete "is".
" " line 8 - "others" should be singular.
Page 374, para 3, line 7 - delete "the" after "this".
Page 375, line 1 - insert "to" after "next".
Page 377, only para, line 1 - "rims" is singular.
Page 379, Stanley Cord Impressed, line 16 - a word is missing after "as".
Page 380, para 1 - in the paragraph it is stated that one small thin patterned biface was found at Sitting Buzzard. In Table 83 three small thin patterned bifaces are listed. These numbers should be consistent.
Page 390, para 1 - is the data from the Ghost Lodge site or the Sitting Buzzard site?
Page 390, para 2, line 9 - "Late".
Page 393, line 1 - the first "to" should be "too".

XIII. Radiocarbon Dates

Page 403, line 16 - change first "these" to "the".

XIV. Synthesis and Interpretation

Page 410, para 3, line 10 - change "other" to "others".
Page 412, last para, line 10 - "southeastern" should be "southeast".
Page 416, para 2, line 12 - insert "the" after "roll".
" para 3, line 7 - "suggest" should be "suggestion".
" " line 8 - do you want to change "and" to "but"?
Page 417, para 1, line 2 - insert "a" after "by".
" para 2, line 10 - change "was" to "were".
Page 418, last para, line 13 - change "than" to "that".

XV. National Register Evaluation and Management Recommendations

Page 423, last sentence - please elaborate or drop it. Also see page 424, last para, last sentence.
Page 425, para 1, line 3 - insert "the" after "along".
" " line 8 - insert "that" after "drainageways".
" para 3, line 10 - "small pox" is one word.
" " line 13 - delete the first "to".
Page 426, para 1, line 13 - insert "what" after "on" and delete "that".

XVI. References Cited

Contract numbers are needed for Ahler, S.A. 1977b; Caldwell, W.W. 1984; Coogan, A.H. 1984, 1987; Falk, C.R. 1983 (check date); Johnson, C.M. 1984b; Pickha and Toom 1984; Smith, J.S. 1984; Steinacher, T.L. 1981, 1984a, b, c; Steinacher and Toom 1984 A, B, 1985; Toom, D.L. 1984a, b, d, 1989b; Toom and Artz 1985; Toom and Picha 1984; Toom, Steinacher and Falk 1979; Wood, W.R. 1984.

Appendix A

Page 1/457, para 3, line 1 - insert "above sea level" after "(457 meters)".
Page 22/478, para 2, sentence 1 - sentence is awkward to read.
" " " line 5 - "closely" is misspelled.
Page 26/484, para 2, last line - "Spinden" is misspelled.
" " para 3, line 4 - replace "of" with a comma.
Page 30/486, para 2, line 4 - "medicinable" should be "medicinal".
Page 32/488 - double space above "Prickly Pear (Opuntia)".
Page 33/489, last para, line 7 - "Serviceberry" is misspelled.
Page 35/491, para 1, line 3 - delete "to".
" " para 2, line 2 - "Middle" is misspelled.
" " para 4, line 1 - "probably" should be "probable".
Page 36/492, last para, line 5 - insert "in" after "occur".
Page 42/498, para 2, lines 8 and 9 - "explanation" is misspelled.
Page 43/499, para 1, last sentence - "majority" is misspelled and part of the sentence is missing.
Page 49/505, Steinacher, Terry L. contract number is missing. Also see page 50/506, Toom and Picha 1984.

Appendix B

Pages 511 and 512, Table B1 and B2. Fish is identified in B2 but not in B1.
Page 517, para 2, line 8 - delete one "could".
Page 28 - why aren't the class, order, etc. numbers listed like they are for species?

Appendix C

Page 574, Test Unit 1, line 32 - change "of" to "or".

Appendix E

Page 597, footnotes. Will these be necessary for the final report?